The Croonian Lectures

ON THE

CHEMISTRY AND THERAPEUTICS OF URIC-ACID GRAVEL AND GOUT.

Delivered before the Royal College of Physicians of London,

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LECTURE IV.

CHEMISTRY OF URATIC PRECIPITATION CONTINUED.—BEARING OF THE INVESTIGATION ON THE THERAPEUTICS OF GOUT.

Topography of Uratic Deposits.—The topographical distribution of uratic deposits through the various organs and tissues of the body exhibits certain well-marked characteristics. These deposits are found almost exclusively in structures belonging to the connective-tissue class—in cartilages, ligaments, tendons, and other fibrous structures, and in the cutaneous and subcutaneous connective tissues. On the other hand, uratic deposits are conspicuously absent from the muscular tissue, and from the substance of the brain, liver, spleen, and lungs. The tissues which are liable to uratic precipitations are, however, not equally so in the different parts of the body. The cartilages, ligaments and tendons in and about the joints which are bathed with synovia are much more obnoxious to these deposits than are cartilages and fibrous structures situated at a distance from joints and which are not bathed with synovial fluid. It is further to be noted that uratic deposits favour the more superficial and cooler parts of the body, especially the upper and lower extremities, and are more rare in the deeper and warmer interior parts of the trunk. It may be inferred from these particulars that the influences which coöperate to determine the site of uratic precipitations are of several and quite different kinds. I do not propose to discuss this subject comprehensively, but to refer only to two points which seem capable of a chemical or physical elucidation. These are the influence of the proportion of sodium salts in the several organs and tissues and the influence of synovia.

1. *Influence of the Proportion of Sodium Salts.*—We have seen that the dominant factors in uratic precipitation, as studied in the laboratory, are the proportion of urates and the proportion of sodium salts contained in the medium.[1] The highest tendency to precipitation is reached when there is a concurrence of these two factors in maximum intensity. A medium may be rich in urates, but if it be at the same time poor in sodium salts its tendency to precipitation is very feeble, and *vice versâ*. This fact has a direct bearing on the topography of uratic deposits. For supposing the system of a gouty man, on the eve of an outbreak, to be throughout equally impregnated with urates, it is obvious from the experimental evidence before adduced that uratic precipitation would take place earliest and most copiously in those parts which were richest in sodium salts, and take place latest or not at all in those parts which were poorest in sodium salts. Let us now examine the distribution of sodium salts in the body and seek to ascertain if there be any correspondence between the liability to uratic deposits in the several tissues and organs and the proportion of sodium salts contained in them. In the subjoined table I have arranged the results of analysis on this point. The materials available for comparison are not so full and precise as could be desired, but their general significance is, I think, quite unmistakable. In order to render the comparison more complete and instructive I have included in the table not only the results with respect to the solid organs and tissues, but also those with respect to blood-serum and its derivatives—lymph and synovia.

[1] The proportion of calcium and magnesium salts is always too small to have any appreciable influence on the occurrence of uratic precipitation.

TABLE XVIII.—*Showing the Percentage of Sodium Salts in the several Fluids, Tissues and Organs of the Body.**

Blood-serum	0·70 per cent.
Lymph	0·70 ,,
Synovia	0·80 ,,
Cartilage	0·90 ,,
Fibrous tissue	0·70 ,,
Blood-corpuscles	0·20 ,,
Brain	0·20 ,,
Muscle	0·08 ,,
Spleen	0·04 ,,
Liver	0·02 ,,

* The figures in this table are to be taken as approximate numbers. Most of them are deduced from analyses cited in Gamgee's "Physiological Chemistry." The figures for synovia and fibrous tissue are deduced from the author's own analyses of the synovial fluid and tendons of the ox, the amounts being reckoned as chlorides. A more recent analysis of human lymph by Munk and Rosenstein (Maly's Jahresbericht, Band xx., p. 40) gives the sodium salts as 0·80 per cent.

An inspection of the table shows that the tissues which are liable to uratic deposits are very much richer in sodium salts than the tissues and organs which are not thus liable. The remarkable immunity from uratic deposits enjoyed by the muscular tissue, by the brain, liver and spleen, may be inferred to be due, for the greater part at least, to their poverty in sodium salts. Turning to Table XIII., we see that the solvent power of a medium for sodium bi-urate increases in correspondence with its lessening proportion of sodium salts. Brain has only about one-fourth the percentage of these salts as compared with cartilage and fibrous tissue, and muscle only one-tenth. This difference signifies (roughly) that brain has four times more power and muscle ten times more power of dissolving sodium bi-urate than cartilage and fibrous tissue; and therefore, respectively, four and ten times more power of resisting its precipitation in their substance. It might probably be truthfully said, on this ground, that brain, muscle, liver and spleen could not become the sites of uratic deposits until the connective tissues had been in this respect exhausted. It is true that the immune tissues and organs have a quicker circulation than cartilages and tendons, and this doubtless contributes importantly to the difference, but it scarcely fully accounts for it, otherwise we should expect that the skin, which is abundantly supplied with bloodvessels, would share this immunity. The prepotency of the cartilages and fibrous tissues to induce uratic precipitation must obviously operate in a conservative direction and serve to protect the more vital organs of the gouty from similar precipitations, where they would produce more deadly effects.

2. *Influence of Synovia.*—The connexion between synovia and gouty deposits is evidently very close and special. Synovial fluid has itself been repeatedly found heavily laden with crystals of sodium bi-urate. In the great majority of the less severe cases of gout the deposits are exclusively confined to those cartilages, ligaments and tendons which are in actual contact with synovial sacs or synovial sheaths. With regard to the articular cartilages it may, I think, be demonstrated that the uratic precipitation actually takes place *from* the synovial fluid and is not self-originating in the cartilaginous substance. Vertical sections of gouty cartilages are very convincing on this point. If such sections are examined under the microscope, it is seen that the deposit hugs the synovial surface of the cartilage and that it becomes progressively sparser and sparser towards the deeper layers, the central and deepest parts being usually quite free from deposit. This mode of distribution moreover implies that the process of deposition, so far as concerns the cartilage, is a purely passive one and is no wise active and vital in its initiation. We may suppose that the urate dissolved in the synovia penetrates by liquid diffusion into the superficial layer of the underlying cartilage and that when the critical moment arrives precipitation takes place simultaneously in the synovia and in the cartilage. On this view the after consequences are entirely secondary and are due to the reaction of the tissue against the presence of a foreign body lodged in its substance. It may interest you to know that this process can be artificially imitated in the laboratory and that a counterfeit gouty joint can be produced in the articulations of a dead animal. I here show you samples of such counterfeits. They were prepared in the following manner. Tarsal bones of a pig were suspended in wide-mouthed phials charged with a saturated solution of sodium bi-urate made in hot water and then cooled. The phials were chloroformed, corked and placed in the warm chamber or at the temperature of the room. Reprecipitation of the bi-urate takes place in two or three days. If the bones are now

examined, the articulating ends are found to be encrusted with a chalky matter, which cannot be wiped off with a towel or removed with a nail-brush. They present an exquisite imitation of the plastered appearance of a gouty cartilage. If vertical sections of such cartilages (previously hardened in absolute alcohol) are made and examined with the microscope, the deposit is seen to be situated in the substance of the tissue, close beneath the synovial surface of the cartilage and to be composed of a dense felt of fine needles of bi-urate. The deeper layers of the cartilage are not affected. It may be inferred that the deposits which occur in the ligamentous and tendinous structures of gouty joints are produced in the same way as those found in the cartilages, and that the precipitation takes place, chiefly at least, from the synovial fluid bathing them, and that they are not due to primary morbid changes in the structures.

Two questions may now be asked: First, Why does gouty precipitation take place preferentially in synovia rather than in its cognates, the serum of blood and lymph? Secondly, why do the joints differ so much from each other in their liability to attack? I will discuss the two questions together, as the arguments often dovetail into each other. It may be that there is, as Sir A. Garrod suggests, some special attraction in the joints for uric acid. There are, however, other factors which come into play. Synovia is a comparatively motionless fluid, while serum and lymph are in ceaseless motion. As a still pool crystallises into ice sooner than a running brook, so likewise, supposing serum, lymph and synovia to be equally impregnated with urates and sodium salts, the tranquillity prevailing within the synovial cysts would give to synovia a priority in uratic precipitation over the restless blood-serum and lymph. Then as regards the varying liability of the different joints to gouty attacks, it may be pointed out that the synovial pouches and sheaths are shut sacs, standing apart from each other and isolated from the general panmixia of the circulation. It might consequently be expected—indeed it is an observed fact—that the synovial fluids in different joints should present differences in the relative proportion of their constituents. Some are certainly more concentrated than others; and we can easily believe that they are not quite identical in their degree of impregnation with urates and with sodium salts. In this way the several joints might come to vary considerably in their liability to uratic precipitation.

Frerichs[2] has contributed some interesting particulars on synovia in animals. His observations indicate that synovia varies both in quantity and quality under different modes of life. He found that stall-fed horses and oxen, leading an idle existence, had twice as much synovia in their joints as similar animals roaming in the meadows or doing work. Moreover the composition of the fluid varied in the two cases. In the idle animals the synovia was more watery and contained less albuminoid matters but, and this is significant, a larger proportion of mineral salts, which consist almost entirely of sodium salts. We might conjecture from this fact that if horses and oxen were liable to uratic precipitations the idle stall-fed animals would be more subject to such deposits than the same animals leading a more active life. Perhaps we may discern herein one reason why men who lead a sedentary life are more subject to gouty deposits than men who take active exercise.

Interpretation of the Appearances found at the Necropsy of Gouty Subjects; Re-solution of Gouty Deposits.—Before leaving the subject of the topographical distribution of gouty deposits I should like to say a word on the need of caution in interpreting the appearances, both positive and negative, observed at the necropsy of gouty subjects. The incidents of the gouty diathesis, especially in the early periods, pursue a markedly interrupted course. Long intervals of months or years often elapse between the arthritic outbreaks. During these intervals the blood of the gouty recovers its purity more or less completely and approximates in its content of uric acid to the blood of a healthy person. The solvent relation of the bodily fluids to the material of uratic deposits is simply a question of saturation and subsaturation. If the lymph or synovia at a certain spot becomes saturated, or rather supersaturated, with sodium bi-urate, precipitation of that substance will inevitably take place into the contiguous fibrous tissues. And if after such an event the lymph or synovia recovers its purity and becomes approximately free from bi-urate, as in due course usually comes about, a process of slow re-solution will of necessity set in. For, as has been before demonstrated, sodium bi-urate, although very sparingly soluble, is by no means insoluble in these media. The rate and amount of re-solution of uratic deposits must necessarily vary greatly in different cases, according to the degree of subsaturation attained by the bodily fluids, the massiveness and penetrability of the deposits, and the length of time during which the favourable conditions endure.

If regard be had to the often long survivorship of gouty persons and the interrupted course of the arthritic incidents, it seems highly probable, in the lapse of a long life, that deposition and re-solution of uratic matter may take place once and again in a gouty joint. There are undoubted instances, of which Sir Dyce Duckworth[3] records one observed by himself, where no uratic concretions have been found after death in joints which had at some previous period undergone typical gouty attacks. The presumption in such a case is, not that deposits never existed, but that they had been redissolved in the intervals of amendment. Uratic concretions in the pinna of the ear have sometimes been actually observed to come and go and come again. There is no reason why the same thing should not occur within the joints, and such vanished concretions might leave behind them permanent changes in the cartilages and bony structures as tell-tale evidence of their former presence. On the other hand, the discovery after death of uratic deposits in a joint is not always to be regarded as a certain proof that the joint had passed through an inflammatory gouty attack. The observations of Moxon and Fagge seem to warrant this conclusion, and they reasonably suggest that when the precipitation of the urates takes place slowly and by degrees there may be no accompanying inflammatory outbreak to mark the event.[4] The experimental evidence before adduced indicates that when lymph or synovia is impregnated with sodium bi-urate to or above 1 part in 6000 the medium is supersaturated and precipitation either actually occurs or is impending. On the other hand, when these fluids contain less bi-urate than 1 part in 10,000 the medium is under-saturated and there resides in it a certain power of redissolving uratic deposits, and of course the nearer the medium is to freedom from urates the higher rises this solvent power. It may further be inferred that the solvent action will be most effective in the case of deposits situated in textures like the fibrous tissues, which have a comparatively free lymph flow, and conversely that it will be least effective in textures like the cartilages, which have a sluggish lymph flow. This is probably the reason, or chief reason, why the cartilages figure more prominently than the fibrous structures in the morbid anatomy of old gouty joints. Probably both tissues were originally infiltrated with bi-urate crystals in equal degrees; but the fibrous structures afford greater facilities for their re-solution in the periods of amendment than the cartilages, and hence the greater persistence of the deposits in the latter tissues.

The Mode in which Uric Acid produces its Injurious Effects.—A problem of great interest in regard to the elucidation of gouty manifestations is the mode or modes in which uric acid produces its injurious effects. The main question is whether these effects are exclusively due to the *mechanical damage* consequent on its precipitation as sodium bi-urate in the tissues, or whether, in addition, uric acid circulating in the blood in a state of solution is capable of acting as a *true poison*. With regard to the incidents of regular gout the mechanical theory seems to offer a natural and complete explanation. The crystalline urates precipitated in the cartilaginous and fibrous structures of the joints necessarily act as foreign bodies; they excite irritation, clog the lymph channels, exercise pressure on the tissue elements and impede their nutritive operations. These effects sufficiently account for the inflammation, pain and swelling which ensue, and explain the remoter degenerative changes which follow after. Nor need we look beyond physical conditions to account for the diversity witnessed in the local manifestations. It is easy to understand that depositions occurring within the tense unyielding structures of the joints would produce widely different results from similar depositions in the loose subcutaneous tissue or in the rim of the ear. It is equally easy to understand that the suddenness or slowness of the precipitation, its copiousness or scantiness, would necessarily cause great variation in the intensity and character of the

[2] R. Wagner's Handwörterbuch d. Physiol., Bd. iii., pt. 1, p. 463

[3] Treatise on Gout, p. 68.

[4] Fagge and Pye-Smith's Handbook of Medicine, p. 674.

local disturbances. So easy and natural is this explanation that we might even predicate, from our general knowledge of pathological cause and effect, that if similar depositions of crystals of carbonate of lime, or of any other inert substance, were to take place in the same localities there would follow very much the same train of morbid sequences as are witnessed in connexion with uratic precipitations. It is in the explanation of the phenomena of irregular gout that the mechanical theory of the action of uric acid seems inadequate, and it is to meet this lack that the theory of a poisonous action has been set up and is invoked. The visceral disturbances and manifold neuroses which trouble the gouty have not yet been anatomically traced to uratic precipitation, and there seemed no other way of explaining their occurrence, if they were to be linked with uric acid at all, except by assuming that uric acid was possessed of toxic properties.

The acceptance of this view appears to me on several grounds to be extremely difficult. There is, first, the complete absence of direct experimental proof. Animals have been made to ingest large quantities of uric acid with their food, and urates in solution have been freely injected into their veins without eliciting any signs of poisoning. In the next place, the idea that uric acid is poisonous seems opposed to broad biological analogies. Uric acid is the physiological homologue of urea; each of these bodies constitutes in its separate domain the final term of nitrogenous metabolism. Now, it cannot be said, without an abuse of terms, that urea is a poisonous substance,[5] and it would be strange if its homologue, uric acid, differed from it in so important a particular as the possession of toxic properties. The theory appears not less improbable when examined from a nearer point of view. The system of the gouty man is at times surcharged with uric acid. On the eve of an outbreak the fluids of his body, in parts at least, must be impregnated with bi-urate to saturation; for of course no precipitation can occur until this point is reached. Yet with fluids saturated with urates such persons often betray not the slightest sign of poisoning and enjoy complete immunity from symptoms of every kind until overtaken unwarned by the sudden precipitation which provokes the arthritic attack. Again, the manifestations of irregular gout are so extremely diverse in seat and character that it is hard to believe that they can be produced by one and the same toxic agent. Sometimes they implicate the stomach, sometimes the liver or heart or lungs and oftenest of all the nervous system. This diversity is, however, easily explicable on the supposition that the disturbances are not caused by uric acid in a state of solution acting as a poison, but are really due to actual precipitation of crystals of bi-urate into the connective and fibrous structures of the implicated organs or into the fibrous sheaths of the nerves which control their functions. Observations at the bedside and in the dead-room lead to the inference that uratic precipitation is very variable in its mode of incidence. In certain conditions the crystals descend in sudden and copious showers, which provoke a sharp inflammatory reaction, as in the regular arthritic seizures. In other conditions the crystals fall in gentle sprinklings, sufficient perhaps to excite irritation if the implicated tissue be a sensitive one, but not enough to cause downright inflammation. The peculiar pricking pains in the joints which some gouty persons invariably experience after partaking of certain wines are highly suggestive of the occurrence of these slighter precipitations. Now if these slighter precipitations instead of falling on the joints fell upon the membranes of the brain or upon the fibrous sheaths of the nerve roots this would, I submit, afford an adequate explanation of the phenomena of irregular gout. Of course it may be objected that no such slight precipitations have actually been found. But have they been looked for? Has the microscope been used in the investigation? In prosecuting such a search it would have to be borne in mind that such precipitations would be apt to be fugitive, and that negative results would have to be interpreted with caution. For it is obvious, in the case supposed, that when the stress of saturation of the fluids with urates was relaxed and the blood again recovered its power of dissolving these compounds these slight deposits would be speedily removed by re-solution, and not a trace of them might remain at the necropsy. We scarcely realise how imminent a slight but widespread precipitation of the crystalline bi-urate must not unfrequently be in the gouty system. It was shown in the preceding lecture that when the serum of the blood is impregnated with sodium bi-urate to the extent of 1 part in 6000 supersaturation is attained and precipitation is then, of course, imminent. It was also pointed out that Sir A. Garrod had proved by quantitative analysis that the blood-serum of the gouty man is sometimes actually impregnated with uric acid to this extent. These two facts taken together indicate that the explanation here suggested of the phenomena of irregular gout stands on a strong basis of *à priori* probability and thus dispenses with the necessity of assuming that uric acid and its compounds are endowed with poisonous qualities. This mode of viewing the subject enables us to bring the diverse morbid effects of uric acid into uniform line. Uric acid and its compounds are deleterious simply because of their sparing solubility in the bodily media. It may be said that the final cause of uric-acid gravel is the sparing solubility of free uric acid in urine, and in like manner it may be said that the final cause of gouty precipitations is the sparing solubility of sodium bi-urate in blood-serum, lymph and synovia.

[5] The word poisonous is here used with its ordinary meaning. Almost any substance which could be got into solution in the blood in very large quantities would produce deleterious effects—even common salt. Urea can be taken into the stomach in drachm doses without harm, and Dr. Rose Bradford, who has paid particular attention to this point, informs me that the human body contains habitually in the normal state some thirty to forty-five grains of urea, and may contain very much larger quantities than this without provoking any signs of poisoning.

BEARINGS OF THE INVESTIGATION ON THE THERAPEUTICS OF GOUT.

In dealing with the therapeutics of gout I shall confine myself to those points which have a chemical bearing and which can be brought into touch with the results of the foregoing investigation. According to the views developed in these lectures the mischief done by uric acid in gout is contingent on its precipitation as crystalline bi-urate in the tissues or in the fluids of the body. Within this limited scope the study of the treatment of gout resolves itself into a study of the means we possess of controlling the factors which promote or hinder this precipitation. These means may be divided into those which belong to the domain of diet and regimen and those which consist in the administration of medicinal substances.

I. DIET AND REGIMEN.

Restricting the production of Uric Acid.—It has been shown that one of the main factors in determining uratic precipitation is the percentage of urates in the medium. Other things being equal the larger the proportion of urates present the earlier and more abundant is the deposition of the crystalline bi-urate. Our power of controlling this factor lies almost entirely in the direction of regulating the diet. Numerous series of experiments have been made on the effect of diverse kinds of food on the production and excretion of uric acid. The chief point of therapeutical interest that has been clearly made out is this, that the ingestion of large quantities of proteid matter is attended with an increased production of uric acid and *vice versâ*. It does not appear clear that proteid substances derived from the animal kingdom differ in this respect from those derived from the vegetable kingdom. But inasmuch as the commonly used articles of food of animal origin—such as butcher's meat, poultry, game, fish, eggs and cheese—are richer in proteid stuff than the commonly used articles of vegetable origin—such as bread, oatmeal, rice, potatoes and garden products—it is true that a vegetable diet is less productive of uric acid than an animal diet. The most trustworthy experiments indicate that fat, starch and sugar have not the least direct influence on the production of uric acid; but, as the free consumption of these articles naturally operates to restrict the intake of nitrogenous food their use has indirectly the effect of diminishing the average production of uric acid. There may be, and indeed undoubtedly are, other differences between animal and vegetable articles of food, and between one article and another of the same class, which are highly important. They differ considerably among themselves in their digestibility and in their stimulating qualities, but in regard to the point under review—namely, their direct influence on the production of uric acid—articles of diet must, as far as our present knowledge goes, be classified according to the percentage of albuminoid matters contained in them. As a rough guide in the choice of food for the gouty the subjoined table may prove useful.

TABLE XIX.—*Showing the Average Percentage of Albuminoid Matters contained in Diverse Articles of Food.*

Animal food:	Albuminoid matter.
Butcher's meat	19 per cent.
Fowl	20 "
Game	22 "
Fish	17 "
Egg	13 "
Milk	4 "
Cheese	30 "
Vegetable food:	
Bread	8 "
Oatmeal	12 "
Rice	6 "
Green peas	6 "
Potatoes	2 "
Carrots and turnips	1 to 2 "
Green vegetables and salads	1 to 2 "
Fresh fruit (excluding nuts)	0·5 to 1 "

In choosing a diet for persons who are disposed to uratic precipitations regard must of course be had to the whole condition, and especially to peculiarities of the individual. Nowhere perhaps is it more necessary than in gout to consider the man as well as the ailment, and very often more the man than the ailment, but the general rule in reference to the point under notice is, I think, pretty clear. Gouty people should be advised to partake cautiously of butcher's meat, fowl, game and cheese, and to partake as freely as their digestion will permit of bread, rice, garden vegetables, salads, and fruit. The advantage to be gained from an adjustment of the dietary on these lines may be inconsiderable or even inappreciable in cases of inveterate gout, but it may be of critical moment in the slighter cases. A diminution of one or two grains a day in the amount of uric acid thrown into the circulation may make all the difference between the occurrence or non-occurrence of an arthritic attack.

The use of alcoholic beverages, as constituting an important feature in our dietetic habits, may here claim a word of comment. The most reliable researches indicate that these beverages in their legitimate use exercise no appreciable influence either way on the quantity of uric acid produced in the body. It was, moreover, found in my laboratory experiments that the addition to the medium of small quantities, such as might conceivably reach the circulation, of spirits, wines, or malt liquors had not the slightest effect on the solubility of sodium bi-urate, or any influence in accelerating or retarding the precipitation of the bi-urate in blood-serum impregnated with uric acid. The special and highly important part played by certain classes of alcoholic beverages in fostering a proclivity to uratic depositions is evidently of a very subtle and complex character, and has apparently no direct reference to the chemical problems discussed in these lectures.

The Use of Culinary Salt.—It was shown in the preceding lecture that the solubility of sodium bi-urate was conspicuously influenced by the proportion of sodium salts in the medium. I observed, moreover, in my experiments on the maturation of blood-serum impregnated with uric acid that the addition to the medium of small quantities of sodium chloride (0·1 per cent. or even less) always appreciably hastened the precipitation of the crystalline bi-urate. It has also been shown that the topographical distribution of uratic deposits through the body bears a close and striking relation to the percentage of sodium salts contained in the several organs and tissues. Indeed, it might apparently be said with truth that if we possessed the power of regulating the dosage of sodium salts in the fluids and tissues we should be able effectively to control the occurrence of uratic depositions. Our power in this respect is, however, limited. Sodium salts belong to the physiological constants of the blood and their proportion therein can only be modified within a comparatively narrow range. These remarks apply especially to the most abundant of them, the sodium chloride. It has been found in experiments on animals that when common salt is given in excess with the food, or injected into the veins, the surplus is for the most part quickly removed by the kidneys, and there is only a small and transient increase of its percentage in the blood. Conversely, when animals are fed with food abnormally poor in salt there is only a slight falling off in its proportion in the blood, while it almost disappears from the urine. The blood clings with great tenacity to its proper percentage of sodium chloride, and the experimental evidence indicates that in case of a threatened salt famine within the economy the blood has the faculty of supplying its necessities by extracting salt from the less vital fluids and tissues, and contrariwise, in case of a glut of salt in the blood, the overplus is temporarily passed over into the serous cavities until such time as the kidneys have succeeded in restoring the normal equilibrium.[6] All this leads to the inference that by lessening the intake of salt with the food we should abate its proportion in the blood only to a slight degree, but should diminish its proportion in the synovial fluids and fibrous tissues considerably. Acting on these ideas I have been in the habit for some years past of directing gouty patients to restrict, as far as practicable, the use of common salt with their meals.

II. ADMINISTRATION OF MEDICINAL SUBSTANCES.

In forecasting the possible effects of medicinal substances given internally in the treatment of gout it is well to fully realise the actual conditions of the problem. These are widely different from those presented to us in urinary gravel. In the latter case the daily dose is designed to form an addition to a comparatively small bulk of fluid—namely, to the forty or fifty ounces which constitute the diurnal discharge of urine. In the case of gout we are seeking to make an impression on a much larger bulk of fluid—namely, on the totality of the blood, lymph and synovia—a quantity in a man of average weight certainly not less than twenty pounds. Consequently the effect of our dose must be proportionately less. Moreover, the urine is a dead excretion; it takes and keeps what is cast into it and has no power of self-purification. The blood, on the other hand, is a living stream with high powers of self-adjustment to a normal standard. A practicable dose of an alkaline carbonate enables us to radically alter the urine—to change its reaction from acid to alkaline and thereby to exercise a decisive therapeutical effect in uric-acid gravel; but the same dose only produces a feeble and transient effect on the mass of the blood and lymph. The blood passes on the surplus alkali with all speed through the kidneys into the urine and quickly reattains its proper physiological standard of alkalescence.

The medicinal agents which have been chiefly employed in the treatment of gout with a view of controlling the tendency to uratic precipitation are the carbonates and phosphates of potash and soda, the carbonate of lithia, piperazine and the waters of mineral springs; and it is to these alone that I propose to call attention.

Alkalies.—Alkaline substances are largely employed in the treatment of gout, both as pharmaceutical preparations and as components of mineral springs. It is believed that the alkaline carbonates and phosphates administered internally by increasing the alkalescence of the blood enhance its solvent power on the material of gouty deposits and thereby delay or prevent their formation. The experimental evidence laid before you entirely destroys this hypothesis. It has been conclusively proved that alkalescence, as such, has no influence whatever on the solubility of sodium bi-urate. It has, moreover, been shown that the addition of an alkaline carbonate to blood-serum impregnated with uric acid produces no appreciable effect on the process of maturation and the advent of precipitation of the crystalline bi-urate in the medium. The use of alkalies in gout has been advocated on another ground. It is held in a vague sort of way that there is an undue prevalence of acid in the gouty system and that the blood is less alkaline than it should be. In some quarters it is even believed that this is the primary vice of the gouty state, and that there exists a so-called "acid dyscrasia" which dominates the whole condition. I have been at some pains to ascertain what foundation there is for this belief. I have found very little of any kind and none that is really valid. In the numerous examinations of the blood in gouty subjects made by Sir Alfred Garrod the serum was invariably found to be alkaline, never acid or even neutral. He remarks that there is often (not always) a marked alteration in the degree of its alkalinity, and that in cases of chronic gout the serum sometimes shows a near approach to neutrality. It is, however, obvious that observations on the alkalinity of the blood have no validity in regard to the point under consideration unless they are made on cases of gout pure and simple. Gout is often complicated not only with pyrexia but with serious secondary lesions in the kidneys and joints which lead to a profound cachexia. These secondary lesions bring with them blood changes of their own, which are only remotely connected with the primary disorder and have no bearing on the etiology of uratic pre-

[6] Lavage du Sang, by Dastre and Loye, Archives de Physiologie, 1888, p. 93.

cipitation. In the last few years some exact quantitative measurements have been made of the alkalinity of the blood both in health and in disease.[7] These researches indicate that a diminished alkalescence of the blood is a common pathological deviation; and that it occurs in a variety of conditions which have no special relation to gout—namely, in pyrexia, in diabetes, carcinoma, acute rheumatism, anæmia, leukæmia and apparently in every kind of general cachexia. These facts and considerations suffice to show that in the present state of our knowledge the belief in an acid dyscrasia in gout rests on a pure assumption.

Carbonate of Lithia and Piperazine.—These two substances have been introduced into the treatment of gout expressly on chemical grounds. Solutions of these substances possess a high solvent capacity for free uric acid; it has been inferred from this fact that their administration internally might exercise a favouring influence on the solubility of sodium bi-urate in the bodily fluids and thereby tend to prevent the formation of uratic depositions. This inference, however, does not appear to be justified. I found experimentally that the addition of carbonate of lithia or piperazine in the proportion of 0·1 per cent. and 0·2 per cent. to blood-serum or synovia had not the slightest effect in enhancing the solvent power of these media on sodium bi-urate, nor the least effect in retarding its precipitation from serum or synovia artificially impregnated with uric acid. If these bodies have any beneficial action in gout, it is, I think, certainly not due, as has been supposed, to their solvent action on the material of gouty concretions.

Mineral Springs.—The bearing of the inquiry on the use of mineral waters is, I think, of important practical interest. A considerable number of the springs to which gouty patients resort are strongly impregnated with the salts of soda. Now it has been conclusively shown that all the salts of soda act adversely on the solubility of sodium bi-urate and hasten its precipitation, and it may be inferred that the introduction of these salts into the circulation must tend to favour the occurrence of uratic depositions in the body. It is not therefore surprising to learn that not unfrequently the first effect of these waters on a gouty patient is either to provoke a downright attack of gout or to aggravate the symptoms under which he was suffering. This event is now recognised by the physicians practising at those spas as a thing to be looked for, and experience has taught them the necessity of caution in regard to the quantity of the waters to be taken by new comers. They comfort themselves and their patients, however, with the belief that this preliminary storm is a necessary prelude to the calm amendment which is to follow. There is no doubt some foundation for this idea. It is no fiction that a gouty man, tormented with symptoms of irregular gout, is relieved by a regular arthritic attack. I presume that this arises from the complete, or approximately complete, precipitation of the urates floating in his blood and lymph into the structures of the joints. The urates are thereby as effectually removed from the vital fluids as if they were eliminated by the kidneys. It must, I think, be allowed that this is a rough mode of cure and that it brings with it serious pains and perils of its own. My impression is that gouty persons should either entirely avoid springs which owe their activity to sodium salts or should use them very sparingly. It is difficult to believe that they can do any direct good and easy to believe that they can do direct harm. If they do any good at all, it must be indirectly, by acting on the liver and the intestinal tract; and we possess other means of effecting this purpose without inducing any collateral risk. There are, however, other springs of high and growing repute in the treatment of gout which are not open to these objections. These springs contain no soda or only traces, and the sum of their mineral constituents does not exceed that which is often present in ordinary potable waters. They contain for their principal ingredient a little carbonate or sulphate of lime and it is very doubtful whether the whole of this is absorbed into the blood. Most of it probably passes out inertly with the fæces. In fact, springs of this class may practically be considered as equivalent to ordinary drinking water, except that several of them have the advantage of being thermal. Among springs of this kind may be mentioned in our own country the waters of Buxton, Bath and Strathpeffers; in Germany the waters of Gastein, Wildbad, Pfeffers and the Sauerling spring at Carlsbad; in France the waters of Aix-les-Bains, Contrexéville, Vittel and Barèges.

[7] See Peiper in Virchow's Archiv, 1889; and a paper by Rumpf in Centralblatt f. Klin. Med., 1891.

Now, there can be no reasonable doubt that the efficacy of these springs has nothing to do with their scanty mineral ingredients, but depends on their watery constituent. They are drunk freely and on an empty stomach. Their action would be to temporarily dilute the blood and lower its percentage of urates and sodium salts. This effect would tend to retard or prevent uratic precipitation and thus give the defective kidneys additional time to overtake their arrears in the task of eliminating uric acid.

It may be asked whether the drinking of water at home would not answer as well as resorting to a mineral spring. The inference from my experiments is that, other things being equal, the beneficial results would be the same. But the "other things" never are equal. It would scarcely be practicable for a man going about his usual business to drink eight or ten tumblers of water on an empty stomach every day for two or three weeks. At a watering-place the visitor has nothing to do except to attend to his "cure." Moreover, in getting away from home, he leaves behind him the worries of his daily life, and experiences the advantage of change of air and scene, with a salutary modification of diet, and he has abundant leisure for out-door exercise. All these collateral influences help to raise the general level of health and quicken the action of the secretory cells. I do not think, therefore, that we can forego the advantages of the time-honoured practice of a visit to a mineral spring. At the same time, a word may be said in favour of a more systematic use of water in the every-day life of the gouty. I have observed that some gouty persons are very sparing in their use of diluents; such persons should be encouraged to be habitually more liberal in this respect. In a few cases it might even be possible to imitate with plain water the regular two or three weeks' course at the spa, and to repeat this course twice or thrice a year as a prophylactic measure. I may observe that in scarcely any complaint is there more need of caution in judging the effects of remedies than in gout. The incidents of the gouty diathesis exhibit a waviness—a flux and reflux—which is highly characteristic. There is a natural tendency for the periods of aggravation to be followed by periods of amendment, and it requires a good deal of sobriety of mind to avoid being made the dupes of our own preconceptions. I believe that the most promising road to an improved therapeutics of gout lies through a fuller and more accurate knowledge of the chemistry of uric acid and the urates, and a more penetrating study of the reactions of these compounds with the fluids and tissues of the body. This is a large and difficult field of inquiry and demands the coöperation of many labourers. That is my apology for the fragmentary character of the present contribution. I shall, however, be quite satisfied if what I have done prove an incentive and a help to other workers in the same field.

Clinical Lecture

ON AN

EXCEPTIONALLY COMPLICATED CASE OF INGUINAL HERNIA, FOR THE RADICAL CURE OF WHICH BASSINI'S OPERATION WAS PERFORMED.

Delivered at the Middlesex Hospital, May, 1891,

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GENTLEMEN,—Some of you have lately seen me perform Bassini's operation for the "radical cure" of an inguinal hernia in a patient in Founder ward. As this method has, so far as my knowledge extends, met with little notice here, and as the form of hernia was exceptional, I have taken this case as the subject of to-day's lecture.

The patient, S. R——, aged thirty-five years, a porter, a well-grown, muscular man, was sent into the hospital by his doctor on Jan. 3rd last, in the hope that something might be done for the cure of a very large rupture which had latterly become so troublesome as to compel him to give up work and for the restraint of which he had tried several forms of truss, but none could be borne. He said that the rupture

had existed since his childhood, and that its size varied greatly. On stripping him it was at once apparent that the right side of the scrotum was imperfectly developed and that the corresponding testis was absent from it. It was also seen that the right groin was occupied by a conspicuously prominent oblong swelling. The innermost limit of this was slightly to the median side of the spina pubis and the outermost limit was separated by only a slight interval from the anterior superior spinous process of the ilium. This large swelling was in part resonant, showing the presence of intestine; and it also enclosed a soft, solid, pellety mass, plainly omentum. It contained also near its inner end, above and slightly external to the spina pubis, a smooth ovoid body of about the size of a hazel nut, obviously an imperfectly developed testis. We ascertained that this conspicuous swelling, evidently lying superficially in the front of the aponeurotic tendon of the external oblique muscle, was continuous through the external abdominal ring with a deeper swelling, covered by this tendon, filling the inguinal canal; so that the superficial and the deeper parts were loculi of one swelling. Its objective clinical features and its anatomical relations made it evident that this large inguinal swelling was a complete, congenital entero-epiplocele which, in association with imperfect evolution of testis and scrotum, after escaping through the external abdominal ring, had had its downward passage into the scrotum arrested, and had been turned aside in an upward and outward direction along the groin, thus taking approximately the course usually pursued by an enlarging femoral rupture. From this last form of rupture our patient's was immediately distinguished by two ascertained facts: (*a*) the spot where its most conspicuous part became superficial was the external abdominal ring; (*b*) it enclosed the testis.

An oblique inguinal hernia of long standing, through yielding of the inter-columnar fibres and wider separation of the pillars of the external ring, giving this opening a long slit-like form, of which the outer end may approach or even transgress the position of the internal ring, may very exceptionally acquire a deceptive appearance of lying in front of the tendinous aponeurosis, and it is conceivable that in this condition it might present a deceptive resemblance to the superficial part of our patient's rupture. Here, however, the ascertained form of the external ring negatived any such illusion. When occurring in association with a testis detained either within the abdomen or in the inguinal canal or just below the external abdominal ring a rupture on escaping through this aperture usually, as noticed already, descends into the scrotum, and it only exceptionally takes the course it pursued in our patient. Still more exceptionally does the rupture enlarge in both directions, as in an instance which some years ago I communicated to the Royal Medical and Chirurgical Society, where, in association with retained testes, on both sides one part of the hernial sac passed downwards into the scrotum, whilst another part of the sac had travelled upwards and outwards upon the aponeurosis of the external oblique muscle nearly to the anterior superior spine of the ilium.

Looking at the subject of hernia from your present standpoint—as students—it will probably astonish most of you to hear that operations for the "radical cure" preceded by several centuries those for the relief of strangulation. The reason of this is not far to seek. In early times, when efficient trusses such as we now have were unknown and the only supports were bags slung by a baldrick across the shoulders, which whilst they in some measure eased the painful dragging of an increasing scrotal rupture did not make any pressure on the abdominal openings through which the viscera escaped from the abdomen, very large ruptures must have then been as common as they are still in countries where surgical culture is yet at a primitive level. But in olden times, when a man was chiefly valued for his "thews and sinews," if he became incapable and he could neither bear arms nor do heavy agricultural work, he was apt to be regarded by his community as a useless encumbrance, and his lot was so sad that he was willing to incur any risk and pain for a prospect of relief, and parents were ready to subject their ruptured children to any travelling charlatan who promised a cure. Strangulation, an incident of relatively infrequent occurrence, was regarded as a desperate disorder beyond help from leechcraft. For our own country this is shown by the "bills of mortality" of old London, in which strangulated hernia is entered under the terribly significant name "Miserere."

So numerous are the surgical methods devised in the last two decades of this century for the "radical cure" of hernia and so preponderant are the advantages claimed for each by its originator, that the young and as yet inexperienced surgeon may well feel some bewilderment when first he approaches this subject practically. Here a principle laid down by the late Professor John Wood will help to guide his choice—viz., to discard every method which does not aim at closing the neck of the sac and at reducing the internal abdominal ring to the extent sufficient only for the passage of the spermatic cord. Both these desiderata are very certainly effected by Bassini's method, which also strengthens the outer part of the posterior wall of the inguinal canal, where naturally it is weaker; and this it does with, I think, greater precision than is attainable by other methods approximately or strictly subcutaneous. My choice of Bassini's method for this particular case was largely influenced by the fact that we had to deal with a complicated form of hernia, which made preferable a method of operating that permitted each step to be clearly seen and precisely controlled. If you will now follow the extract I am about to read from the dresser's note-book you will be able to realise the successive steps of the operation.

On Jan. 7th, the patient having been anæsthetised, an incision from four inches and a half to five inches long was made parallel to and a short distance above Poupart's ligament, in the longest axis of the superficial part of the rupture, and the tissues were divided down to the sac. This was next detached from the aponeurosis of the external oblique muscle and temporarily placed aside out of the way between a couple of flat, warm, moist sponges. The aponeurotic tendon was then split in the line of the external wound from the external abdominal ring outwards along the whole length of the inguinal canal, so that by separating with retractors the edges of the split the inguinal part of the hernial sac was exposed up to its very neck at the internal abdominal ring. The sac itself was now slit open, the bowel contained in it was reduced, and the omentum, adherent and thickened, having been freed, was tied at the level of the internal ring, then cut through below the ligature and the stump returned into the abdomen. The sac was next carefully completely isolated from the other elements of the cord, tied circularly at its neck and then cut away, a small part of it only being reserved for the construction of a tunica vaginalis by sewing its edges together so as to form a small pouch for the testis. This done, a subcutaneous incision was prolonged from the inner end of the inguinal wound to the bottom of the scrotum so as to make a bed for the testis, which was pushed down into it and fixed there with a stitch. The outer border of the conjoined tendon and the fleshy lower borders of the internal oblique and transverse abdominal muscles were then drawn down and attached to the deep aspect of Poupart's ligament by a series of closely set buried sutures so as to closely embrace the cord at its passage through the internal ring and to cover the stump formed by the circularly tied neck of the sac. Next the edges of the split in the aponeurosis of the external abdominal oblique muscle were sutured together; and lastly the integument incision was similarly closed. It is scarcely necessary to say that throughout the operation and afterwards scrupulous attention to antisepsis was observed. Notwithstanding this, on Jan. 15th (one week after the date of the operation) some tension of the wound was apparent. For this two stitches were cut which allowed a free serous oozing. Four days later suppuration was present. This spread superficially a little way below the groin on to the thigh and above towards the flank, necessitating counter-openings and protracting the patient's recovery so that he did not leave the hospital until April 2nd. For greater security he was recommended to wear a light truss and he was directed to return to the hospital if he felt any inconvenience.

The patient returned in January of this year (1892) to ask if he might safely lay aside the truss. This he was told he might do except when engaged in very laborious work. The scar appeared sound, and it did not show any sign of bulging when he strained or coughed. The testis had not remained in the bottom of the scrotum, but it was well below the external abdominal ring. Here the presence of the large subcutaneous inguinal loculus of the sac, enclosing the testis, which was sessile and not as occasionally suspended by a mesorchium, complicated and protracted the operation, making it more severe than it would have been under ordinary circumstances. Its duration might have been shortened by removing the testis, but this

the patient was unwilling to lose, though a functionally useless organ.

So far as the experience of a single case warrants me in forming an opinion, Bassini's method is more severe than some others, and I am inclined to reserve it for exceptional cases.

PERFORATION OF THE INTESTINE IN PHTHISIS.

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ALTHOUGH tuberculous ulceration of the intestine is such a common complication of pulmonary phthisis its various modes of termination appear to have received comparatively little attention. The majority of the standard works on medicine and pathology are content to dismiss the question of perforation with the statement that complete rupture of the intestinal wall is a possible but unusual result of its tuberculous affection, while those that deal with the subject in greater detail differ considerably among themselves, both as to the frequency with which perforation is apt to ensue and the clinical symptoms which are supposed to portray the accident. Wilks and Moxon[1] state that complete perforation is rarely met with and they can record but three instances in point, in one of which the appendix vermiformis was the seat of the lesion. On the other hand, Lebert[2] found that perforation occurred in 3 per cent. and Willigk[3] in 5 per cent. of the cases they had observed, while Leube[4] had noted it but twice among several hundred cases. Habershon[5] found that among 56 cases of acute peritonitis due to perforation of the gut, only 4 resulted from tuberculous ulceration. Grawitz,[6] in his analysis of 867 cases of peritonitis, states that 20, or 2·3 per cent., were the direct consequence of tuberculous disease of the bowel. With regard to the actual results of perforation of the intestine the various authors are at still greater variance. Spillman,[7] in his excellent treatise on gastro-intestinal tuberculosis, records several instances where death had occurred from perforation of a tuberculous ulcer, and, while he infers that local abscess is not an uncommon result of the accident, he asserts that extravasation of the intestinal contents into the general cavity of the peritoneum is excessively rare. Theodore Williams,[8] on the other hand, remarks that acute general peritonitis is the most frequent result of perforation of the intestine occurring in the course of chronic phthisis. Rindfleisch[9] lays special stress upon the frequency with which various portions of the small intestine are apt to ulcerate into one another and to establish irregular channels for the circulation of their contents. According to Orth,[10] the vermiform appendix is a favourite spot for tuberculous disease, and perforation in this position is very liable to be followed by the formation of a local abscess and subsequent fistula. In view of these conflicting statements it appeared to us that a further investigation into the subject might prove of interest and perhaps of some practical value. We have accordingly examined the records of 2000 necropsies on cases of phthisis performed at the Brompton Hospital for Consumption and would here gratefully acknowledge the kindness of the senior medical staff in permitting us thus to utilise the records of their cases.

Tuberculous ulceration of the intestine is rarely met with as a primary disease in adults, although in children it is by no means uncommon. In the great majority of cases the disease is secondary to pulmonary phthisis and the frequency with which the two conditions are associated has been the subject of some controversy. Louis[11] found evidences of ulceration in about four-fifths of all his cases; Bayle in 67 per cent.;[12] while Lebert[13] states that the intestinal complication existed in 67 per cent. of his cases in Breslau and in only 39 per cent. of those examined by him in Zurich. Willigk[14] found the intestine affected in 49·6 per cent. of his cases, and more recently Eisenhardt'[15] discovered a similar lesion in 56·6 per cent. of the cases of phthisis examined at München. Our own conclusions tally closely with those of the two latter observers, since we found the intestine was stated to have been the seat of ulceration 500 times in 883 cases, or in the proportion of 56·6 per cent. From these facts it would appear that while the absolute frequency with which the bowel is diseased in cases of pulmonary phthisis is apt to vary in different countries, as a general rule it can be detected in rather more than one half of the cases. All writers are agreed that the ileum, especially its lower portion, is the region of the gut most frequently attacked by the tuberculous processes and among our 500 cases of ulceration the ileo-cæcal region was found to be affected in 85 per cent.; while in 9·6 per cent. it proved to be the only portion of the intestine which showed any evidence of the disease. From this spot the liability to the tuberculous affection diminishes steadily as we proceed in either direction towards the extremities of the bowel and consequently we find that the duodenum and rectum were never diseased unless the other portions of the tract were already in an advanced state of ulceration. Thus among the cases already alluded to ulceration was noted to have been present in the duodenum in 3·4 per cent., in the jejunum in 28 per cent., in the ascending colon in 51·4 per cent., in the transverse portion in 30·6 per cent., in the descending colon in 21 per cent., in the sigmoid flexure in 13·5 per cent. and in the rectum in 14·1 per cent.

Attention has often been drawn to the fact that the vermiform appendix is peculiarly liable to exhibit patches of superficial ulceration in cases of chronic phthisis. Unfortunately, the cæcal appendage appears to have so frequently escaped examination that we are unable to state from our notes with any degree of certainty the relative frequency with which this portion of the bowel was affected. It is, however, quite an exception to find the appendix free from disease when the ileo-cæcal region is in a state of tuberculous ulceration. In seventeen instances it was expressly stated that the appendix was the only portion of the intestinal tract that showed any evidence of ulceration; and the question naturally arises whether this morbid phenomenon was of a simple or tuberculous nature. In every case the ulceration was multiple, and no concretion was noted to have been present. In two cases of a similar nature which have come under our own observation the superficial character of the disease appeared to denote a catarrhal rather than a specific origin, but on submitting the tissues to microscopic examination all doubt as to the true nature of the disease was set at rest by the discovery of numerous tubercle bacilli. Without wishing to infer that all cases of ulceration of the appendix associated with pulmonary phthisis are necessarily tuberculous in their nature, we would submit that this portion of the bowel, owing to the large quantity of lymphoid tissue in its walls, its abundant blood-supply and the comparative stagnation of its contents, is peculiarly liable to fall a victim to tuberculous infection, and that the subsequent ulceration may closely simulate in its macroscopic appearances the results of simple catarrh.

Among our 2000 necropsies we find twenty-five instances in which perforation of the intestine had occurred as the result of the tuberculous ulceration. These figures would appear to indicate that the accident in question only occurs in about 1·2 per cent. of all cases of phthisis, a result which, although it closely agrees with the statements of Dittrich and Louis, nevertheless falls far short of the estimations made by other observers. But these discrepancies are easily accounted for when an inquiry is made into the exact meaning which various writers have attached to the term "perforation." It is well known that advanced tuberculous ulceration of the intestine is invariably attended by a considerable degree of local peritonitis, and it consequently happens that, owing to the firm adhesions which form round the floor of an ulcer actual perforation may occur without giving rise to fæcal extravasation and subsequent peritonitis.

[1] Pathological Anatomy, p. 414.
[2] Klinik der Brustkrankheiten, 1874.
[3] Prager Vierteljahrschrift, 1856.
[4] Quoted by Spillman: La Tuberculisation du Tube Digestif, p. 116.
[5] Transactions of the Medical and Chirurgical Society, vol. xliii, 1860, p. 5.
[6] Charité Annalen, 1884. Also Louis observed one case of perforation among 150 necropsies on phthisis, Dittrich 5 in 403, Wilson Fox 3 in 77, and King Chambers in about 7 per cent. of all cases of ulceration.
[7] Op. cit.
[8] Pulmonary Consumption, p. 190, 1887.
[9] Pathological Histology, New Sydenham Society's Transactions, p. 449.
[10] Lehrbuch der Path. Anat., I., p. 838.
[11] Phthisis, p. 74: Sydenham Society's Transactions.
[12] Quoted by Williams, op. cit.
[13] Ibid.
[14] Op. cit.
[15] Inaug. Dissert., München, 1890.

Thus, in a curious case reported by Lepelletier,[16] a perforating ulcer in the ileum had contracted adhesions with an enlarged and caseous mesenteric gland which eventually came to fit like a plug into the aperture in the wall of the bowel. Perforation, therefore, may be of two kinds, partial or complete, the evidences of the former being latent and often difficult to ascertain without a careful search, while the latter attracts attention immediately the abdomen is opened, from the striking evidences of inflammation in the serous membrane. For these reasons it is obvious that those statistics which, like our own, are founded upon the complete form of the disease, do not represent by any means the absolute frequency with which tuberculous ulceration is apt to terminate in perforation of the bowel. At the lowest computation partial or complete perforation probably occurs in 5 per cent. of all cases of chronic phthisis, or, in other words, in 10 per cent. of the cases where ulceration is present. These facts by no means corroborate the statement made in text-books to the effect that typhoid ulceration of the intestine is far more liable to end in perforation than the tuberculous type of the disease. If we believe that every case of typhoid fever is accompanied by an intestinal lesion and that only 10 per cent. of the entire number of deaths are the result of perforation of the bowel, then even allowing the primary disease to be attended by the high mortality of 20 per cent. we find that only 2 per cent. of the cases of typhoid ulceration terminate in perforation, instead of 10 per cent. as in the case of the tuberculous lesion. Perforation may occur in any portion of the intestinal tract and at the outset it would seem probable that that region of the bowel which is most frequently attacked by ulceration would also be most liable to perforation. But a glance at the figures relative to this point will show that the surmise is only partially borne out by fact. It is true that the ileum is the favourite site both for ulceration and rupture; but, on the other hand, the cæcum, which is almost twice as often affected as the jejunum, is much more rarely the seat of perforation than the smaller intestine. Again, tuberculous ulceration is infinitely more common in the ascending colon than in the duodenum; nevertheless we find that while perforation in the former is excessively rare, the same lesion in the latter is attended by more danger to life than in any other spot in the whole digestive tract.

In the following table a contrast is offered between the tendency exhibited by the various portions of the intestinal tract to ulceration and perforation respectively. The first two columns are derived from an analysis of 500 cases of tuberculous disease of the intestine, while the remainder has been compiled from a comparison of the total number of cases of ulceration with the various instances of perforation occurring in the same anatomical region. It will therefore be readily understood that although the first half of the table is fairly accurate the latter half can only convey a general idea, as it cannot lay claim to any great degree of accuracy.

Table to Illustrate the Relative Frequency with which Tuberculous Ulceration and Perforation occur in the Different Regions of the Intestine.

Region.	Percentage of ulceration.	Sole seat of disease.	Percentage of ulceration terminating in perforation.	Percentage of acute peritonitis.	Percentage of fæcal abscess.
Duodenum	3·4	—	10·0	75·0	25·0
Jejunum	28·0	1·4	0·53	65·0	35·0
Ileum	60·2	4·4	1·1	76·0	24·0
Ileo-cæcal (last foot of ileum and contiguous portion of cæcum)	85·0	9·6	—	—	—
Cæcum	—	—	0·12	17·0	83·0
Appendix	(50·0)	(3·8)	(0·1)	—	—
Ascending colon ..	51·4	1·8	0·08	—	—
Transverse colon ..	30·6	1·0	—	—	—
Descending colon ..	21·0	—	—	—	—
Sigmoid	13·5	—	0·37	—	—
Rectum	14·1	—	0·34	—	—

[16] Bulletins de la Société Anatomique, p. 383, 1846.

Of the 25 instances of perforation which occur among our series of post-mortem examinations 15 terminated in acute general peritonitis and the remaining 10 by the formation of a local abscess. Since this number is but small we have collected an additional 28 cases from various sources, making in all a total of 53. These have been divided for the purpose of analysis into two classes, and the general features of the cases at our disposal will be considered under the headings "acute general peritonitis" and "fæcal abscess."

1. *Acute Peritonitis.*—This class includes 34 cases, in 28 of which a single ulcer had perforated into the cavity of the peritoneum, while in the remaining 6 a previous lesion had occurred and given rise to a fæcal abscess. The average age at the time of death was twenty-nine, but in those cases where the appendix was the seat of the disease the average age was only seventeen. Men were more frequently the subject of this affection than women, in the proportion of nearly 2 to 1. Among the entire number no fewer than 27 originated in disease of the small intestine, the larger portion of the bowel being only affected in 7 cases, and in 4 of these the vermiform appendix proved to be the seat of the fatal perforation. The greater mobility of the small intestines and the relative thinness of their walls afford an ample explanation for the more frequent occurrence of perforation in this region of the gut, while the fact that acute peritonitis should be such a frequent result of the accident is readily understood when it is mentioned that the various coils receive an entire investment from the peritoneum, and that their contents, being of a liquid nature, can readily diffuse over the whole surface of the serous membrane. Of the 27 cases situated in the small gut 3 occurred in the duodenum, 3 in the jejunum and 21 in the ileum, while those due to disease of the large intestine comprised 4 perforations of the appendix, 1 of the cæcum and 1 in each of the ascending and transverse portions of the colon. Although the reports in many of the cases fail to state the exact position of the fatal lesion, there are still a few facts which serve to throw some light upon the various causes which predispose to perforation. It is well known that simple ulceration of the duodenum is almost invariably situated within a few inches of the pylorus and is very liable to terminate in fatal peritonitis. Now it has already been mentioned that tuberculous ulceration of the duodenum is exceedingly rare, and that when it does occur the disease is more common in the lower portion than in the neighbourhood of the pylorus. In 4 cases where perforation took place in this part of the intestine no fewer than 3 were situated within two inches of the pyloric orifice, and in each case acute general peritonitis ensued upon the accident. We are accordingly forced to believe that although a tuberculous ulceration of the first portion of the duodenum is of very unusual occurrence, the disease is in this position fraught with infinitely greater danger to life than when it attacks any other portion of the intestinal tract; a result which is probably due to the corrosive action of the gastric juice on the mucous membrane when in a state of disease. Of all the causes predisposing to perforation mechanical strain on the walls of the bowel is perhaps the most important. It is a common observation that rupture is particularly liable to occur when the ulcer occupies a spot where the gut is habitually bent or kinked; and there can be little doubt that the hinge-like movement which obtains at such a bend in the coil must exert a very deleterious influence upon the wall of the intestine, already weakened by disease. Perhaps the most interesting feature in this connexion is the part played by a permanent increase of tension in the fluid contents of the bowel. Every pathologist is aware how easy it is to blow out the base of an ulcer by passing through the gut a stream of water at a high pressure; the probability of rupture depending directly upon the thinness of the floor of the ulcer and the pressure of the aqueous stream. Now in 6 cases perforation is said to have occurred within twelve inches of the ileo-cæcal valve, and in no less than 5 of these the valve itself is described as much thickened and ulcerated, with its diameter considerably narrowed. In another case, where perforation took place in the ascending colon, it was noted that the bowel was considerably dilated owing to the presence of a tuberculous stricture four inches lower down. It is probable therefore that under certain conditions the progress of the ulceration may lead to considerable narrowing of the diameter of the bowel and the increase of tension thus induced may relieve itself in the direction of the peritoneal cavity.

As a general rule perforation only ensues upon extensive

destruction of the intestinal tract by the tuberculous processes; but among our cases there occur one or two exceptions to this rule. Thus in one instance a single ulcer the size of an almond had formed in the ileum and death had resulted from rupture of its floor. In another case fatal peritonitis owed its origin to destruction of the vermiform appendix, which proved to be the only portion of the bowel affected by tuberculous ulceration. Although perforation usually arises from a progressive destruction of the wall of the gut from within outwards it appears that under certain conditions it may occur in a totally different manner. In two cases the disease is stated to have commenced in the peritoneal and subperitoneal tissues, extending inwards toward the lumen of the bowel in the form of hemispherical masses covered by the submucous and mucous coats of the intestine. Ulceration but rarely occurred over the summits of these tuberculous tumuli; but in both the instances under notice the caseous material had undergone softening at one spot, and eventually discharged itself in either direction, and so had given rise to escape of fæcal matter into the cavity of the peritoneum. In another case an abscess had arisen in connexion with tuberculous mischief of the right Fallopian tube, and discharged itself through the base of an intestinal ulcer; the sudden irruption of the intestinal contents into the sac had caused its walls to give way and lighted up an attack of peritonitis. In one remarkable instance a round worm had burrowed its way through the floor of an ulcer, and its exit into the general cavity of the peritoneum had been followed by a fatal stream of fæcal material. It has already been mentioned that in six cases a previous perforation had given rise to the formation of a local abscess; and an examination of the locality of these abscesses revealed the fact that in five instances they were connected with the same portion of the bowel which subsequently became the site of the fatal lesion, while in the remaining case a chronic abscess round the cæcum had been followed by a fatal perforation of the duodenum. In all the cases at present under notice fæcal matter was discovered in the peritoneal cavity at the necropsy, the intensity of the secondary inflammation in the serous membrane varying according to the length of time which had elapsed between the onset of the perforation and the death of the patient. In three cases the peritoneum was found to be in a state of general tuberculous disease.

Clinical.—The symptoms arising from perforation of the intestine are usually so characteristic in their nature that it might easily be supposed that the rupture of a tuberculous ulcer in a case of chronic phthisis would meet with certain and instant recognition. But a comparison of the clinical and post-mortem records of these cases shows only too clearly how readily the disease may escape notice altogether, or its symptoms be confounded with those arising from less important conditions. We find from the clinical histories of the foregoing cases that in nearly three-fourths of the total number the fatal lesion was accompanied by distinct premonitory symptoms. The most characteristic of these was severe abdominal pain, usually coming on from twelve hours to three days before actual perforation took place, but in one instance lasting for nearly a fortnight. The pain was referred by the patient to the epigastrium or right iliac region, and was increased by pressure or muscular effort; in many it appeared to be rendered more severe by the ingestion of food. Vomiting, often of a bilious type, was a constant accompaniment of this condition and sometimes proved so severe as to prevent the administration of food by the mouth. The temperature usually showed a slight tendency to rise, the pulse was quickened, and in a few cases the diarrhœa, which had previously resisted all treatment, either diminished or ceased entirely. In a few instances the abdomen was noticed to have become distended and hyper-resonant on percussion. Such premonitory symptoms are important, as they are obviously dependent upon the condition of local peritonitis which so invariably precedes the final catastrophe, and their early recognition may prove of value by affording an indication for preventive treatment.

Actual perforation is usually sudden in its onset and the symptoms to which it gives rise are then extremely characteristic. In three instances the accident occurred while the patient was straining at stool, in two others it took place as the patient was walking about, while in another it appears to have followed directly upon a severe attack of retching. In each case a sudden and severe pain was complained of, sometimes situated in the umbilical region, but more often referred to that part of the abdomen which contained the diseased organs. In many cases this sudden onset of pain was accompanied by a sensation of an internal snap, and the patient dwelt upon the fact that something had given way in his abdomen. Vomiting and collapse quickly followed these initial symptoms, the features rapidly becoming shrunken and blue and the surface of the body covered with a cold sweat; the pupils dilated, the pulse became quick and feeble and the mental depression pronounced. In every case the temperature exhibited a sudden and characteristic fall to a point considerably below the normal. If diarrhœa had existed before the accident it now entirely disappeared. When death resulted from collapse it usually occurred within three to seven hours of the accident, but in some life was only prolonged for about an hour and a half. In those cases that survived this stage the symptoms of shock were gradually replaced by those of an inflammatory affection of the peritoneum; the temperature gradually recovered itself and rose somewhat above the normal; the pulse grew wiry with an increased rapidity of beat; vomiting became urgent and the abdomen exhibited all the characters indicative of diffuse peritonitis. Death finally ensued from cardiac failure after being postponed for thirty-six or forty-eight hours. It is clear, therefore, that perforation may bring about a fatal result in two different ways—by direct shock or from acute general peritonitis; and it is worthy of notice that the immediate danger from shock bore a definite relation to the position and size of the perforation; for the higher the site of the lesion in the intestine and the more rapid the subsequent extravasation the more profound and quickly fatal proved the subsequent collapse.

The train of symptoms indicated in the foregoing sketch are common to all cases of perforation of the gastro-intestinal tract irrespective of its cause, and their supervention in a case of chronic phthisis would admit of but little doubt being entertained as to the exact nature of the complication. But under certain conditions it is found that rupture of a tuberculous ulcer may be accompanied by symptoms of the most equivocal nature, and it is to such abnormal varieties that we would venture to draw special attention. In nearly one-fourth of the entire number of cases the patient appeared to succumb from gradual exhaustion, and the autopsy, which revealed that death had resulted from purulent peritonitis following intestinal perforation, afforded a complete surprise to those who had watched the progress of the case. The question therefore arises why the same lesion should in some instances be followed by such a characteristic and severe train of symptoms while in others its effects are hardly to be distinguished from those of the primary disease, and although it kills, why it should do so in such an unostentatious manner. The answer appears to be that in order for fæcal extravasation to be accompanied by clinical phenomena of a pronounced type it is requisite that both the peripheral and central portions of the nervous system should be capable of immediate reaction to a sudden stimulus. But if either the central nervous system or the surface of the serous membrane be previously deprived of its natural irritability from exhaustion or disease, then the symptoms of shock and subsequent inflammation, which under ordinary circumstances are so characteristic of perforation of the bowel, will be either indifferently developed or even entirely absent.

In looking over the cases which presented but ill-defined symptoms of peritonitis, we find they are capable of being arranged in two divisions according as the central nervous system or peritoneum appear to have been primarily at fault. In the first case the symptoms of the accident were unable to exhibit themselves on account of being masked by the profoundly asthenic condition of the nervous system, while in the other they remained latent during life, because the surface of the peritoneum had been deprived of its natural irritability owing to its previous invasion by miliary tuberculosis. That acute general peritonitis may supervene during the latter stages of chronic phthisis without arousing any suspicion of its presence in the mind of the physician has been the subject of frequent remark, and of the difficulty which such cases of masked peritonitis present in diagnosis the following offers a fair illustration. A youth who was the subject of advanced phthisis complained of diarrhœa, accompanied by occasional attacks of nausea and pain in the right iliac region of the abdomen. A few days after admission into hospital and without any marked accession of pain he commenced to vomit and was soon unable to retain any nourishment in the stomach. The temperature which had ranged about 101°F. showed at first but little variation, but afterwards gradually fell

with the rapid progress of exhaustion. No complaint was made of abdominal pain, and on examination nothing abnormal could be detected, with the exception of some slight general tenderness on pressure. The diarrhœa appeared to increase in severity rather than to diminish. The vomiting, however, proved intractable, the pulse grew quicker and weaker, the tongue became dry and brown, sordes collected about the teeth and lips, and the patient succumbed in four days to a progressive asthenia. The persistent vomiting and diarrhœa without collapse seemed to indicate an inflammatory affection of the gastro-intestinal tract, but the necropsy proved that death had really resulted from general purulent peritonitis, and that the rupture of a tuberculous ulcer in the vermiform appendix had allowed fæcal matter to escape into the cavity of the peritoneum. The clinical records of the remaining cases afford but little help in formulating any rules for the diagnosis of this form of the disease. Abdominal pain may be present throughout the illness, but its onset is never sudden or accompanied by collapse, and indeed the general tenderness over the whole of the abdomen seldom exceeds that which arises from the presence of intestinal ulceration. Occasionally the abdomen may become distended and tympanitic on percussion, but in the majority of our cases these abnormal signs appear to have been absent. Vomiting is always the prominent feature, though it varies considerably in its severity in different cases. Unlike the more sthenic variety of the disease, the symptom of constipation is often absent and in not a few instances, as in the one already referred to, diarrhœa proved exceedingly troublesome. The temperature varies in different cases, sometimes showing an inclination to rise above its former point, but more often gradually declining with the approach of death. The pulse exhibits a progressive quickening with enfeeblement of its beat, the first sound of the heart soon becomes toneless or inaudible, the tongue appears dry and brown with sordes about the teeth, and the face often acquires that peculiar drawn and sunken expression so suggestive of acute abdominal disease. The exact duration of life in these cases is difficult to estimate owing to the absence of any positive data concerning the onset of the perforation, but in many instances death seems to have been delayed from five to nine days after the vomiting commenced.

With regard to that variety of symptomless peritonitis which we have alluded to as "latent" the cases at our disposal can only furnish us with three instances in point. In each there had been a long-continued complaint of abdominal pain and diarrhœa, and in two cases the existence of fluid in the peritoneal cavity had been diagnosed some days prior to death. The patient appeared suddenly to grow worse without any adequate cause being discovered, but after death it was found that chronic tuberculous disease of the peritoneum was associated with fæcal extravasation arising from perforation of the bowel, which from the appearance it presented was obviously a day or two old. It is now a well-recognised fact that tuberculous disease of the peritoneum renders that sensitive structure proof against many sources of irritation which, under normal conditions, would excite intense inflammation. Consequently it may be taken for granted that when once the serous membrane has fallen a victim to tuberculous disease even fæcal extravasation will encounter some difficulty in exciting acute inflammation of its structure, while from the impaired sensibility of the serous surface the accident will also fail to produce that sudden reflex inhibition of the vital organs which is commonly termed "shock." Although the notes on these cases are extremely scanty it would appear that the sudden supervention of intractable vomiting and rapid asthenia in a case of tuberculous peritonitis with intestinal ulceration, the progress of which had hitherto been somewhat slow, should suggest the possibility of perforation having occurred.

Symptoms of acute peritonitis not unfrequently ensue during the course of chronic phthisis totally independent of perforation of the bowel, and it is therefore important to recognise the various causes from which they may arise. In the first place, local peritonitis around the intestinal ulcers may prove so severe as to closely simulate in its symptoms the more diffuse forms of inflammation; and in one case which we recently had the opportunity of watching but little doubt was entertained that actual perforation had occurred. The patient, however, lived three weeks and finally succumbed to the pulmonary disease, while the necropsy demonstrated the fact that the abdominal symptoms entirely owed their origin to the existence of two inflamed ulcers in the jejunum. But in such cases as these the onset of the pain is much less sudden than when due to perforation. Collapse, with a sudden fall of temperature, is absent, and the face fails to exhibit the peculiar expression indicative of fatal mischief in the abdomen. It should also be remembered that actual perforation is of extremely rare occurrence and the subsequent peritonitis invariably terminates fatally within three days.

Secondly, during the same period of time in which our cases of genuine perforation occurred we find the records of nineteen other cases where death had resulted from purulent peritonitis, for which neither perforation of the bowel, tuberculous disease of the serous membrane, nor renal mischief could satisfactorily account. In each instance the bases of the intestinal ulcers were much inflamed, and although it is possible that in a few cases a small perforation may have given rise to the condition without its presence being detected at the necropsy. But the clinical histories of these cases make no mention of a sudden onset of pain attended by collapse, and the absence of this important diagnostic sign is almost conclusive evidence against perforation having occurred in any case. It is probable, therefore, that the condition of general peritonitis was the result of extension by contiguity. Lastly, it is possible that acute tuberculous peritonitis might at an early stage be confounded with an inflammatory affection of the peritoneum arising from the intestinal lesion. In this disease, however, initial collapse is entirely absent, the abdominal pain is more gradual in its onset and less severe, and fever is the rule, not the exception. Here, again, the comparative frequency of the two diseases should be borne in mind, for we find that while tuberculous peritonitis existed in nearly 4 per cent. of all the cases of phthisis which came to a necropsy, acute peritonitis resulting from perforation only occurred 15 times in 2000.

(To be concluded.)

A PRELIMINARY NOTE ON FLEXION AND VERSION OF THE UTERUS.

BY JAMES OLIVER, M.D., F.R.S. EDIN., M.R.C.P. LOND.

OUR text-books on diseases of women, it is true, devote a large amount of space to the consideration of the various flexions and versions of the uterus; that, however, they impart any true knowledge regarding the manner in which these alterations are produced is extremely doubtful. The mere fact that these variations have been recognised for many generations is no criterion. They are apparent and obvious changes, and no high degree of intelligence or great amount of training is requisite for their detection; and had they failed from the earliest period in the history of medicine to attract attention, we should indeed have been justified in expressing the most profound astonishment. The majority of practitioners and gynæcologists even of the present day are, I regret to say, contented to know that they possess that aptitude which enables them to detect alterations in the configuration or position of the uterus—alterations which they cannot, in fact, help detecting. A man endowed with ordinary sight, in looking towards the heavens on a clear night, recognises the stars which stud the azure vault, but without some special training he is unable to determine the distances and magnitudes and courses of the planetary orbs as they roll along the ethereal plains, and these facts are only reached and disclosed by means of an intellectual effort. The various pessaries which from time to time have been devised for the purpose, if possible, of restoring the uterus to and maintaining it in its recognised form and position are carefully enumerated and each is usually described with much exactness. The good effects produced by the application and adaptation of these mechanical agents are duly paraded, but the panegyrist leaves the imagination to picture to itself the manner in which these so-called supports can affect the configuration or position of the uterus and restore this organ to its natural shape and location. "An unreasoned philosophy, even though true, carries no guarantee of its truth. It may be true, but it cannot be certain, because all certainty depends on rigorous evidence, on strict demonstrative proof. Therefore no certainty can attach to the conclusions of an unreasoned philosophy."

Before directing our attention to the consideration of those

changes which produce an alteration in the configuration or position of the uterus let me discuss, first of all, the following propositions, which, says Thomas,[1] "present the views upon the subject of versions and flexions which will be found to bear the test of experience." 1. "Versions and flexions of the womb may, but very rarely do, exist without causing any symptoms, for in themselves they do not constitute disease." The logic of this precept is strange. On authority, but not by reason, we are asked to believe that versions and flexions do not constitute disease and that consequently, although they may not produce symptoms, they are nevertheless much more likely to give rise to discomfort and prove troublesome. Are we to infer that the structural changes which result in the production of these displacements do not constitute disease? If not, they must then be normal variations. No process of reasoning will, I fear, lead us to this conclusion. They are most assuredly the result of some derangement, physical or chemical. Judging alone from the manner in which we are recommended to treat these displacements we are compelled to admit that the alteration, whether in configuration or in position, is in reality the disease. By the application of what "they" term a well-adjusted pessary the uterus will be restored to its natural shape and situation. Now everyone will admit that a system which is reasoned is of some value even although it may not be true, whereas haphazard statements are absolutely worthless, and, worse than this, they are misleading. 2. "By interfering with the escape of menstrual blood, by disordering uterine circulation and keeping up hyperæmia, by causing pressure and friction from contact with surrounding parts, and by creating a barrier to the entrance of seminal fluid, they become as a rule of great importance and require special attention." We have no evidence that flexions or versions interfere with the escape of the menstrual blood. Many women suffer more or less during menstruation, and although we may occasionally in such detect some alteration in the configuration or position of the uterus, it does not necessarily follow that the pain is due to an interference with the escape of blood. Frequently we find women with decided flexions and versions who suffer no discomfort whatever during menstruation. We are too apt to jump at conclusions regarding cause and effect, and for this reason statistics are apt to prove fallacious. We have no evidence either that these variations disorder the circulation. Those who assume that the circulation is disturbed forget apparently that they are dealing with organic structures, with tissues which are endowed with a large amount of power of adaptation to circumstances. In the female dugong we have a uterus which presents a peculiar corkscrew shape, but it is perfectly evident that the circulation of the organ is not thereby disordered. If flexion is due to want of tone in the uterus, then the vessels will not receive that amount of support from the tissues and the blood will consequently pass more sluggishly. In this case, however, the circulation is disturbed not by the flexion, but by the cause of the flexion; the disturbance is nevertheless augmented by the configuration or position of the uterus. In the animal and vegetable kingdoms we have abundant proof that mere shape does not interfere with the passage of that fluid which nourishes the tissues. The tendrils and branches of plants perform many gyrations and assume a variety of shapes without the vascular system in any part of its course being necessarily disturbed. Again, the influence of pressure and friction is undoubtedly exaggerated, for everyday we find new growths developing in the pelvis, arising, it may be, from the uterus or ovaries and attaining a great size, and yet the pressure exercised by these produces little or no discomfort unless they become confined, when the increased tension necessarily produces pressure symptoms. It is alleged, too, that flexions and versions are a cause of sterility, as they create a barrier to the entrance of the seminal fluid. If we examine the genital organs of the females of many of the lower animals we shall observe that greater barriers to the entrance of seminal fluid exist naturally in many of them. The spermatozoa appear to experience no difficulty whatever in effecting an entrance into the corkscrew-shaped uterus of the dugong. In the cervix and body of the uterus of the sheep and goat we find groups of laminæ presenting the appearance of a number of successive ora tincæ, and many no doubt would be disposed to affirm that these irregularities in the canal would hinder the progression of the spermatozoa. A careful study of the various methods whereby the process of fecundation is carried on in plants and animals and a close examination of the genital tract in mammalia compel us to admit that the spermatozoa and ova are attracted towards each other and that they do not meet and coalesce simply because they happen to be traversing the same passage. It sometimes happens that this elective affinity is absent and fecundation is then impossible. In the case of fishes, for example, it is this elective affinity—this attraction between the ova and spermatozoa—which keeps the species pure; without this influence hybrids would abound. In the case of the ornithorhynchus we find a cervix uteri located on each side of the roof of the uro-genital canal. Each cervix presents two orifices, one—the lower—communicates with the ureter, whilst the other—the upper—leads to the body of the uterus. If, therefore, the process of fertilisation depended simply upon chance we would be justified in asserting because of the structural arrangememt that the female ornithorhynchus would seldom become pregnant, for the spermatozoa would tend to enter the first opening which leads to the ureter, and would thus fail in their mission. It is evident, however, that the spermatozoa seldom, if ever, enter this opening, but are attracted towards that opening which leads to the uterus and ovary. In the macropus major—a marsupial animal—we find also a structural arrangement of such a character that if the meeting of the spermatozoa and ova depended purely upon chance the species would run a fair prospect of being speedily extinguished. 3. "Often being the results, as they are sometimes the causes, of uterine and peri-uterine diseases, their treatment should be combined with efforts at the alleviation of these states." There can be no doubt that the displacements of the uterus are the result of intrinsic or extrinsic changes, but I am fully convinced that if greater caution were exercised in treating these malpositions and altered configurations of the uterus many women would be freed from a great deal of suffering, and many who have become invalided in consequence of a too vigorous treatment would pass through life more comfortably.

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[1] Practical Treatise of Diseases of Women, edition 1880, p. 365.

THE RADICAL CURE OF URETHRAL STRICTURE.[1]

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THOUGH it is universally recognised that strictures of the urethra differ in their situation, cause and arrangement, no attempt has, so far as I am aware, been made to lay down any principles which should guide the surgeon in dealing with these separate varieties. Excluding the traumatic form which, as is so well known, differs from the organic stricture in its extreme intractability, we seem hardly to have advanced much further in our ideas of the causation and pathology of the disease than had John Hunter. He recognised three varieties—*true spasmodic*, *permanent* and *mixed*, and states further and with equal truth that spasm plays an important part in most strictures. Subsequent writers on the question have little to add to this view and the less we stray from these simple statements the greater chance of our getting a clear conception of what urethral stricture is and how to treat it. One point alone we may add to this description to make it complete: we must recognise that congestion plays a very considerable part in many a stricture that comes before us. There is another factor of equal if not of greater importance which remains to be determined before a stricture can be successfully treated. Its exact locality must be determined, and this is doubly necessary, because, for reasons that are not altogether explainable, the locality affected influences both the course which the disease follows and the means which are to be taken for its relief. It is often assumed that the appearances of diseased structures which are so familiar to the student of museums form an all-sufficient basis to enable us to carry out a successful line of treatment. Nothing, I am persuaded, is more untrue and nothing more likely to bring surgery into unmerited disrepute than the acceptation of such a dictum, as some writers have accepted it without any reservation whatsoever. So far as it goes it

[1] A paper read before the West London Medico-Chirurgical Society, Jan. 8th, 1892.

cannot be denied that the museum specimen is a most valuable guide, but it must be treated as a servant and not as a master. It represents typical well-marked forms of disease; but the slighter varieties, the beginnings of disease, which are so instructive in teaching us its progress and course and in opening our eyes towards a rational mode of treatment, are practically unknown in museums and are for the most part incapable of representation there. We cannot take a better illustration of this fact than that which is derived from an inspection of hernia specimens in many museums. Direct and indirect inguinal herniæ figure in almost equal abundance and the surgeon who depended only on museum specimens for his knowledge of hernia would perforce conclude that direct and indirect inguinal hernia was of equal clinical significance, whilst a knowledge derived from the living facts of disease would soon convince him that it was their very rarity and not their clinical importance which had prompted the specimen hunter to place direct inguinal herniæ in a bottle. So it is with urethral strictures. Our museums bristle with interesting examples of severe organic strictures, many of them produced by the injudicious use of small and dirty silver catheters, or irritated by the unsparing use of caustics; but of the everyday slight urethral stricture but comparatively few examples are to be found. Not that it is for one moment my intention to find undue fault with the treatment of the period to which these specimens belong. It has now happily passed away, it is to be hoped never to return, but it represented the best thought and the most careful manipulation of a past generation, that was gradually struggling onwards on the lines of surgical progress, and as such should command our intelligent respect; but the specimens which it produced must never be set up as examples worthy of imitation or as indications of the natural course of the disease, unless we are inclined to add the words "exaggerated by surgical treatment." If evidence be needed of such a statement we can find it in the false passages which abound in such specimens, and which may serve as a warning to us against the indiscriminate use of metal instruments. If we would gain a clear knowledge of the best methods of treatment we must extend our knowledge of pathology from the museum spirit to the human flesh, which is more than ever possible to-day by the aid of the urethroscope and cystoscope. What up to quite recently had been a matter of supposition and inference is to-day oftentimes visible to personal inspection. Allusion has already been made to John Hunter's classification of strictures into permanent or organic spasmodic and mixed strictures. Some good reasons may be given for adopting this classification to-day. If the spasmodic variety be first considered it will perhaps conduce to the better comprehension of the other forms, because, as I hope to be able to show, it is the parent of them at any rate in the vast majority of instances. No one doubts that the urethra is at times the seat of spasm, for everyone who has been a few years engaged in the practice of medicine has known instances in which the passage of urine previously easy has been almost if not entirely brought to a standstill either by exposure to cold or by an error in diet. Even Sir Henry Thompson does not deny that in that sense the urethra is subject to spasm, but he would have us believe that such spasm has no connexion with stricture. In referring to the statement made by Otis that deep strictures sometimes disappear after the incision of those situated nearer to the orifice, he makes the following statement. "The deep stricture must be dilated or incised or it will remain as before. If, however, all that is intended by the statement referred to is that a stricture near the meatus may induce spasmodic contraction of muscles connected with the deep urethra, then I have no further concern with the statement; the condition alleged is not stricture; the spasm may or may not occur; its occurrence is a matter of inference or of speculation, not of physical proof, and has no relation to the matter now under consideration."

Many cases of spasm are undoubtedly hypothetical, but all must not be dismissed in so summary a fashion. It is now several years back that I was called upon to treat a case of stricture in the deep urethra, which was said to have supervened upon a recent attack of gonorrhœa and, moreover, a first attack. The patient in question complained that he was often seized with attacks of retention, and though a hot bath usually relieved him yet a few days later the attack recurred. At times he was quite free from any pain or inconvenience. He was anxious, however, to obtain relief rapidly, as he was about to leave England for some time, and I had arranged to divide his stricture, as, though easily dilatable after a catheter was tied in, it speedily underwent recontraction and was very painful to the passage of instruments. Under these circumstances urethrotomy had been advised and he was accordingly anæsthetised. I had passed a No. 3 English catheter for him two days previously and did not anticipate any difficulty; but, much to my astonishment, I found that when he was fully anæsthetised the urethra was perfectly patent and no difficulty whatever was experienced in introducing a steadily ascending series up to No. 16 English, though for the larger instruments I was obliged to divide the orifice. I need hardly say that under such circumstances no cutting operation was attempted. After such complete dilatation under the anæsthetic no further difficulty was experienced with catheters, and he soon learnt to pass one for himself. I advised that this should be continued for some little time, and then discontinued, imagining that some temporary cause had induced a spasm and that all further trouble would soon be at an end. I saw nothing of my patient for several years, but within the last few months I have seen him again, and learnt that a few weeks after our last interview he discontinued the use of the catheter, and all went well for several years; but about a year ago—i.e., three years and a half after I had seen him—the ordinary symptoms of stricture supervened, and he sought medical aid. It was dilated and by occasional catheterism he has been kept by this means fairly comfortable, but on the site of the old spasmodic stricture there is now a permanent one of organic character.

Some two years ago I published an account in the Medical Society's Transactions, vol. xiii., page 105, of a somewhat similar case in which electrolysis failed to produce any permanent relief, but which readily yielded to internal urethrotomy. The case is in some respects so remarkable that I need make no apologies for repeating it once more.

W. P——, aged twenty-four, came to me with a stricture which would admit a No. 4 English catheter. As soon as No. 5 had been held against the stricture for about a quarter of an hour it passed through, and then Nos. 8, 9, 10, 11, and 12 all passed in rapid succession. Nine times in succession did I dilate the stricture, and nine times did he return in intervals of from fourteen to twenty-eight days with his stricture in the same condition. It was clear that one had to deal with a *bonâ-fide* case of spasmodic stricture. I examined the man's urethra with the urethroscope and detected on the left side of the canal a small red patch, which was situated as nearly as possible in the locality of the stricture. This at once recalled to me the views on the pathology of rectal stricture which have been so carefully worked out by my friend and colleague, Mr. Harrison Cripps, in his well-known book on "Diseases of the Rectum and Anus," and the case which he records of spasmodic rectal stricture which completely disappeared under an anæsthetic, but which two years later, when he examined the rectum, was converted into a mass of unyielding cicatricial tissue. I soon came to the conclusion that I really had to deal with a spasmodic stricture set up by a small ulcer in the mucous membrane, and that this muscular spasm was gradually being worried into a permanent cicatricial contraction of the canal. This being the case, I at once changed my method of treatment, and advised an internal urethrotomy. The patient consented, and after the operation was completed a No. 16 English catheter was tied in for twenty-four hours, and the urethra kept well dilated by the passage of instruments at frequent intervals for a month. His stricture vanished and nine months later for the first time for eight months I passed an instrument for him and found no trace of his previous trouble. Of course I cannot say that he will have no return, but I feel fairly confident that his case is to be regarded as a true cure, the result of an application of that surgical principle which Brodie so successfully employed in dealing with ulcer or fissure of the rectum.

There cannot be any reasonable doubt that in both these cases just related one had to deal with a true spasmodic stricture and there is, I think, but little reason for doubting that the last case would have gone the way of the first had its downward course not been arrested by a timely urethrotomy. Erichsen records such an excellent instance of extreme spasm existing in a comparatively slight stricture that it is worth while, coming as it does from an independent observer, to record it here. He says: "The influence of anæsthetics in facilitating the passage of instruments through apparently impermeable strictures is very marked. Shortly after the introduction of ether as an anæsthetic agent Liston was going to cut through a stricture that had resisted all

attempts made by his most dextrous hand at introducing an instrument into the bladder; but no sooner was the patient put on the table and rendered insensible than the No. 8 silver catheter, which had been passed down as far as the stricture, and the point of which was to serve as a guide for the knife, slipped into the bladder and thus rendered a dangerous operation unnecessary." Since my attention has been specially directed to the connexion between spasm and stricture I have, almost as a routine treatment, employed an anæsthetic before beginning to undertake the treatment of a case of urethral stricture, and I have been very much struck by the large number of cases in which the stricture has largely increased in calibre under the influence of an anæsthetic. I think I may say it is almost an invariable rule for strictures to yield somewhat, and many yield to a very considerable extent. Whenever a stricture yields largely to an anæsthetic, it is almost certain, when examined with the urethroscope, to display a considerable amount of congestion, and often patches of granulation tissue are seen in its immediate neighbourhood. Much of this spasmodic irritability will disappear by rest in bed and other well-known appropriate means, but there usually remains a small amount of true spasm which yields only to the anæsthetic. If this residual spasm is to be seen in perfection, it must be looked for in an early and recent case, and not in one in which the cicatricial contraction has reached its practical maximum, and where the muscular tissue surrounding the urethra is incapable of producing further constriction. It is needless to add that such conditions are incapable of demonstration by museum specimens, but they can be readily detected by the methods just referred to. These are the cases which, if early recognised and judiciously treated, will I believe yield a considerable number of real cures. The very earliest of all may possibly be cured by the passage of instruments, whilst the more severe cases will yield to electrolysis, or should if this plan fails be subjected to urethrotomy, and well dilated afterwards. Probably one reason why one seldom sees a real cure after urethrotomy is that dilatation is not practised sufficiently, nor with large enough instruments, but of this more later. It is worth while recording that there is no longer the same rooted objection to the word "cure" in connexion with urethral stricture that there used to be. Mr. Mansell Moullin has published an account of some cases in THE LANCET, May 7th, 1892, in which patients had been treated by various surgeons for stricture and in which a cure in its truest sense resulted. It is not so long ago that such a statement would have almost been hailed as evidence of quackery. Once a stricture always a stricture represented the views of twenty years ago. I have myself come across a fair number of cases in which an undoubted cure has resulted, one, I remember, in which a patient had been originally under treatment for stricture by the elder Coulson, and thirty-five years afterwards I saw him. He assured me he had diligently passed a catheter or bougie (I forget which) most religiously twice a week ever since. He had absolutely no trace of a stricture, and I advised the discontinuance of his instrument. I saw him a year or more later, when I passed a catheter for him in order to be able to assure him that there was no chance of a recurrence, and he was still quite free from constriction of any sort. Now what is the best system to pursue for strictures which are not complicated by spasm, or in which at any rate spasm plays a very insignificant part? Can we hold out any hope of cure? It must be admitted the expectation of cure is not often realised, but it certainly does occur sometimes.

Sir Henry Thompson records a case in which, after a stricture had been three times divided by internal urethrotomy, a cure which remained permanent twelve years later occurred, and other instances of undoubted cure may be found. One thing is certain, and that is if once a stricture is completely divided the question of its ultimate cure depends on the subsequent dilatation, on the mode employed and on the thoroughness with which it is carried out. It has been too long assumed that so inveterate is the tendency in a cicatrix to contract that no human power can prevent it. Such a doctrine has done little but retard our knowledge. That cicatricial tissue has a strong tendency to contract may be readily admitted, but it is a tendency which can be overcome in some instances very readily. Why, we might ask, does not the cicatrix which is formed after a radical cure for hernia go on contracting for ever? If only it did do so the hernia would have no chance of requiring a second operation and patients would be more easily cured than they are at present. Why do not the scars of old strumous abscesses in the neck, after they have been relieved by subcutaneous section, return to their former condition, and why do not burn cicatrices, the most inveterate of all forms of scar tissue, go on contracting for ever? Simply and solely because treatment is directed towards preventing such a result. Movement of one kind or another is kept up for a sufficient length of time and eventually most of the tendency to recontraction disappears. In the case of the neck this is the more remarkable, because the only possible treatment is rubbing and moving the scar, presumably with the object of preventing the cut bands of scar tissue from rejoining, and there is, as we shall see, some reason for believing that an analogous form of treatment in the case of the urethra will produce in some instances an equally happy result. Rectal strictures of a fibrous nature certainly yield to free division accompanied by persistent dilatation subsequently, and if large bougies are used for about a year, at first daily for ten minutes and after a few months less often, the stricture disappears and shows no tendency to return—a fact which I have been able to verify on several occasions. In some instances I have tried a precisely similar plan with urethral stricture, and with the best results. For this purpose the best instrument that can be employed is a conical steel bougie of as large a size as the urethra will admit. There are very few urethræ that will not take with ease a No. 16 English catheter, when the meatus is divided, and in a very large number of patients a No. 18—occasionally No. 20—can be passed without difficulty. Such instruments have the supreme merit of being readily kept clean; they take a high polish and thus pass easily into the bladder, and though at first sight it may sound strange to say so, patients pass them more readily for themselves than almost any other kind of instrument. The reason for this is on reflection quite clear; their weight is such that when passed an inch or two into the penis they glide imperceptibly down the inclined plane of the urethra into the bladder.

I have several cases under observation in which no trace of stricture remains three years after all treatment by dilatation has ceased. But those who have had any experience with hospital patients know how futile it is to expect treatment of this kind to be carried on long and continuously. A few may carry out directions, but the vast majority do not, and in this fact lies the difficulty of the cure. Such experience however, as I have had of the passage of steel sounds daily, and allowing them to remain in for ten minutes, has led me to believe that dilatation so practised has a far more potent effect even on the very worst strictures than any other plan with which I am acquainted. One man I at present have under observation who was the subject of a very bad ruptured urethra, has been for some months quite free from trouble, while he was so under no other plan of treatment, and at the present time he is beginning to be able to slack off dilatation, because the tendency to recontraction is no longer so marked as it was.

There are classes of cases in which probably there will be no difference of opinion amongst surgeons as to treatment—viz., those cases in which no instrument can be introduced into the bladder. One of two operations must be performed—either that which is associated with the name of Mr. Cock or that which is known as Wheelhouse's operation. The latter is unquestionably tedious, and often attended with considerable difficulty; but the results, both immediate and ultimate, are excellent. Cock's operation, though one of the most rapid methods for the immediate relief of a distended bladder, is by no means altogether free from risk, and often leaves the patient in a worse position almost than he was before the operation, for no attempt is made to promote a continuity between the back and front parts of the urethra; and unless a second operation, somewhat of the nature of a Wheelhouse, is undertaken at a later period, the patient may be compelled to urinate through his perineum for the rest of his days, quite apart from the danger of having his urethra cut completely across, as a result of the first operation for his relief. For my own part I have been inclined to employ more largely than some surgeons the various methods of external urethrotomy from a belief that has been gradually forced upon one that the dangers and evil consequences of relieving a strictured urethra with small instruments, especially when metal ones are made use of, are even greater than they are ordinarily supposed to be. Moreover, though the immediate consequence of an external urethrotomy is often a prolonged and tedious convalescence, yet its ultimate result is with ordinary care both certain and permanent. As an instance of the difficulty which is sometimes met with when

the shorter but more dangerous plan of attempting to pass a small metal instrument by the urethra is carried out, there is a preparation in the Norwich Museum of the bladder and urethra of a surgeon, who had suffered for some years from stricture and for whom a small metal instrument was passed by a well-known London surgeon fifteen years before the patient's death. For fifteen years he never voided his urine except by means of a catheter and after his death it was discovered that the reason for this state of affairs was that a false passage existed, which had left the urethra in front of the stricture and re-entered it in the middle of the prostate. Through this false passage all the urine had been drawn off with a catheter for fifteen years. Nothing probably has tended so much to the better treatment of urethral disease of recent years as the more general employment of rubber instruments in the treatment of small strictures, and it may certainly be laid down as an axiom that whenever a soft guide bougie will pass through a stricture it is capable of treatment by internal urethrotomy, whilst such an occurrence as the one just related will serve to show that however brilliant the passage of a metal instrument may seem to the bystander, the state of the patient afterwards may not be one to be exactly envied. Even if it be granted that success would follow on nine occasions out of ten the surgeon should rather content himself with the more tedious method than court occasional disaster for the sake of a brilliant temporary success.

It has long been recognised and it is now pretty generally admitted that penile strictures demand incision, whilst those more deeply situated are quite amenable to dilatation. It is certainly a curious fact that anterior strictures will not often yield to dilatation, and this is probably due to two facts: (1) The septum pectiniform of the penis is unusually firm and unyielding at its anterior portion; (2) the causes—such as syphilitic sores and very acute inflammations usually of gonorrhœal origin, which tend to produce anterior strictures, are usually attended with a great deal of inflammation, and thus give rise to strictures of a very unyielding nature. Still the anterior strictures are interesting in other ways. Some of those which are situated within the first inch of the urethra are certainly capable of real cure. In the first place they are visible to the eye, so there can be no dispute about their existence; in the second they can be kept in view whilst they are being divided; and in the third place they can be kept dilated with very large instruments for any period that may be considered to be necessary. If cure be desired in such cases the stricture should be kept dilated for a few minutes daily with a short conical steel bougie for at least six months, after which time the dilatation should be carried on once or twice a week for four or five months more, at the end of which time there will be found to be in most cases (probably in all) but little tendency to recontraction. The accompanying engraving will show the character and shape of the

instrument. Surely if such a result can be obtained with such severe strictures, it should encourage us to hope for cure in those more deeply placed.

With regard to the strictures which are more deeply situated there will probably be much difference of opinion as to how they should best be handled. Many of the slighter ones are so readily amenable to occasional dilatation that few patients are disposed to submit to more prolonged treatment. With the more severe types whenever there is much thickening to be felt from the outside, if there is tendency to congestion, as is shown by their readiness to bleed, or by their admitting instruments of variable size within a short period, no plan has yielded in my hands such good results as electrolysis. I have on more than one occasion published an account of cases with their results several years afterwards, and further experience leads me to assert confidently that in suitable cases excellent results will with care be obtained.

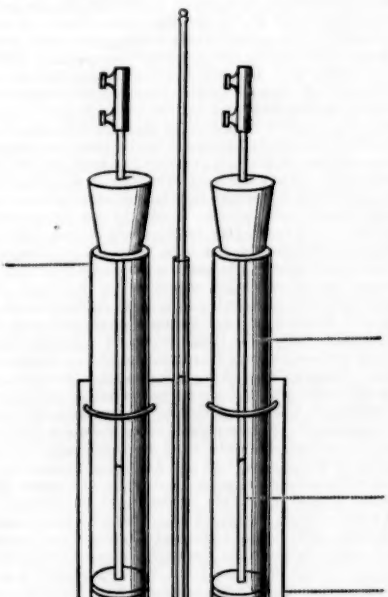
If I were asked to formulate in a few words the most essential points in the treatment of stricture of the urethra I should be inclined to say: 1. Make certain you have a true stricture to deal with. 2. Take the greatest care to keep it dilated for a long time after it has been incised. 3. Where there is much thickening employ electrolysis.

Harley-street, W.

"THE ELECTRICAL RESISTANCE OF THE URINE AS AN AID IN DIAGNOSIS."

BY DAWSON TURNER, B.A., M.D., F.R.C.P. EDIN., &c.,
PHYSICIAN TO THE LIVINGSTONE MEMORIAL DISPENSARY; LECTURER ON MEDICAL ELECTRICITY AT SURGEONS' HALL.

A PRELIMINARY ACCOUNT of part of this research was given in the Proceedings of the Royal Society of Edinburgh on Dec. 21st, 1891, and a further account is being published in the author's "Practical Manual of Medical Electricity." I desire here to give a brief summary of the work and of its chief results. The object of the inquiry was to ascertain the electrical resistances of various kinds of urine, both in states of health and of disease. The measurements were made by means of a Wheatstone's bridge with alternating currents and a telephone according to Kohlrausch's method and at a temperature of 65° F. The engraving is a view of the electrolysis tube used.



It would appear from the observations—some 500 in number—that the specific resistance of a normal urine amounts on the average to about 45 ohms, and that it varies as a rule more or less inversely with the specific gravity. When the specific gravity is high and when the urine holds in solution much salts, its electrical resistance is low, and *vice-versâ* where the specific gravity is low, the resistance is high. The amount of urea has but little to do with the resistance in ordinary urines. A number of experiments were made with artificial urines (see tables), and from these it is clearly apparent that the electrical resistance depends almost wholly upon the salts, and that it is only when these are quite absent, or very much diminished that the influence of the

Tables of Electrical Resistances of Artificial Urines.

Strength.	Urea.	Specific resistance in ohms.
3 per cent.		382·5
2 „		569·5
1 „		977·5
0·5 „		1788

SODIUM CHLORIDE.

Strength.	Specific resistance.
2 per cent.	29·25
1 „	59·5
0·75 „	79·9
0·5 „	110·5

UREA AND SODIUM CHLORIDE.

Urea.	NaCl.	Specific resistance.
3 per cent	1 per cent.	55·25
2 „	1 „	57·8
1 „	1 „	57·8

GRAPE SUGAR AND SODIUM CHLORIDE.

NaCl.	Sugar.	Specific resistance.
1 per cent.	10 per cent.	68
2 „	20 „	51
2 „	30 „	63·75

urea makes itself felt. The resistance is a measure of the chemically active substances in the urine—of the salts, particularly of the chloride of sodium. This gives us a simple and rapid method of estimating the constitution of a urine as regards its salts, while the specific gravity, in the absence of sugar, is a guide to its urea. Some interesting and useful results come from the employment of this method. There are in certain diseased conditions exceptions to the rule laid down that "the resistance varies inversely with the specific gravity"; amongst these are croupous pneumonia and diabetes mellitus. The increased resistance in the former is due to the diminution in the chlorides, and in the latter to the great relative diminution in all the salts, while the specific gravity is raised above the normal by the sugar; but the very presence also of the sugar, if in large quantities, tends by its viscosity, perhaps, to slightly raise the resistance.

In acute and chronic Bright's disease, in certain respiratory affections, in pernicious and other anæmias, &c., the resistance is high; in neurotic individuals of active mental capacity, and in certain other conditions, the resistance is low. The method may be used in both diagnosis and prognosis, and has appeared to me to be an excellent barometer not merely of the efficiency of a patient's kidneys, but also of his general condition. The lower the electrical resistance the healthier, *cæteris paribus*, will be the condition of the kidneys; and where a patient is improving the resistance will diminish from day to day and *vice-versâ*. The tables appended illustrate this in a striking manner. Remembering that the normal specific resistance is about 45 ohms, it will be noticed that in the case of J. B. (subacute Bright's disease) it stood at first at 114·75 ohms, and at once, on suitable treatment being adopted, began to fall, eventually reaching 42·5 ohms. The patient was kept on milk diet until March 15th. He considered himself at that time perfectly well. The second table exhibits the steady increase of the resistance in a case of pernicious anæmia, as the patient grew worse, followed after transfusion on Feb. 16th by a rapid improvement, so that before a month had elapsed the resistance was down to the normal.

Electrical Resistance of J. B.'s Urine (Subacute Bright's Disease).

Date.	Sp. gr.	Urea grs. per oz.	Albumen &c.	Specific resistance.
Dec. 8	1011	4	blood	114·75
„ 11	1012	4·68	„	106·25
Jan. 9	1013	4·68	albumen	89·2
„ 20	1011	3·6	blood	93·5
„ 30	1015	3·74	„	76·5
Feb. 11	1010	3·04	„ (less)	73·1
„ 15	1014	4	„	61·2
„ 23	1015	4·68	„	59·5
March 5	1016	5·6	„	61·2
„ 12	1017	4·68	„	74·8
„ 24	1·020	9	albumen	63·75
May 28	1024	8·19	„ (less)	42·5

Case of L. (Pernicious Anæmia).

Date.	Sp. gr.	Urea grs. per oz.	Albumen, &c.	Specific resistance.
Jan. 16	1017	9·36	0	68
Feb. 11	1015	6·31	0	78·2
„ 16 (before transfusion)	1014	7·7	0	115·6
Feb. 16 (after transfusion)	1014	6·5	blood	115·6
Feb. 17	1012	6·08	0	114·75
March 1	1020	7·02	0	51
„ 12	1019	7	0	44·2

I have to thank Dr. J. O. Affleck, physician to the Royal Infirmary, very heartily, not only for many of the specimens of urine obtained from patients under his care, but also for the encouragement he has continually extended to me in prosecuting this inquiry. My thanks are also due to Dr. Milne Murray for advice in regard to some of the electrical details.

Edinburgh.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

GASTRIC ULCER WITH HÆMORRHAGE, TERMINATING FATALLY FROM THROMBOSIS OF PULMONARY ARTERY.

BY JOHN H. DEWHURST, M.B., B.C.CANTAB.

M. F——, aged twenty-five, was admitted to hospital under Dr. Johnson on Oct. 6th, 1891, with the following history. Two years previously she had gastric ulcer with slight hæmatemesis. She soon recovered and had been in fair health until ten days ago, when she began to feel some uneasiness after food, followed in a few days by vomiting whenever she tried to take anything solid; vomit occasionally blood-stained. Seven days ago she had profuse hæmatemesis, followed by several attacks of fainting on the slightest exertion. On admission the patient was extremely anæmic and complained chiefly of great thirst and faintness. She had not vomited since the hæmorrhage. Pulse 160, very weak; temperature 100°. There was a faint systolic murmur at the apex of the heart and over the pulmonary artery. The urine had distinct traces of albumen. The tip of the nose was discoloured (capillary stasis). On the night of admission the left foot suddenly became painful and swollen. She took nourishment well—nutrient suppositories, peptonised milk, strong beef-tea with desiccated blood &c. — Oct. 7th: Left big toe discoloured. Rather delirious towards evening.—8th: Tip of index-finger of right hand somewhat discoloured. Pulse 120. Towards evening the patient became more restless, with some dyspnœa; several times tried to get out of bed. I was called about midnight, when the breathing was very shallow and hurried; heart acting very strongly, but irregularly. She died within a few minutes, her face remaining quite pallid to the end.

Post-mortem examination thirty hours after death.—On the upper margin of the anterior wall of the stomach, midway between the cardiac and pyloric ends, was a small punched-out ulcer about the size of a sixpenny-piece; just above was a small patch of submucous hæmorrhage. About three-quarters of an inch below was a small puckered scar (probably the seat of the ulcer two years ago). The lungs were very anæmic, but freely crepitant all over. Heart: The left ventricle was practically empty; the right ventricle contained a small quantity of red clot, which easily broke down. Starting from the base of one of the columnæ carneæ and firmly attached to it was a piece of clot about the thickness of a goosequill, greyish-white in colour and of singularly firm consistence. This extended along the pulmonary artery, divided into right and left and gave off shoots down the main branches. On pulling firmly the cardiac end a large piece about five inches came away, showing plainly the division of the artery into main and secondary branches. The clot was very elastic and stood a good strain, returning to its original shape much like a piece of indiarubber.

Remarks.—I think there can be no doubt this patient died from thrombosis of the pulmonary artery—certainly not a

very common cause of death after gastric ulcer. Transfusion was to have been done the next day, but unfortunately her sudden death forestalled us.

Tunbridge Wells.

ON PERFORATIONS THROUGH THE ANTERIOR PILLARS OF THE FAUCES.

BY G. G. MORRICE, M.D. CANTAB., M.R.C.P.

IN THE LANCET of Nov. 30th, 1889, Dr. Walter Fowler contributed a Clinical Note entitled "The Significance of Perforations through the Anterior Pillars of the Fauces." He concludes with the sentence, "Hence I look upon these perforations as caused by suppurative or phlegmonous mischief in the tonsils; and, considering the circumstances under which they are generally met with, the lesion is most probably a sign of antecedent scarlet fever." As Dr. Fowler does not mention having actually seen the perforation taking place it may be of interest to record the following cases occurring in diphtheria. They took place in Homerton Fever Hospital. I am indebted to Dr. Collie for leave to publish them.

CASE 1.—N. W——, aged ten. She vomited on Aug. 15th, 1890, and was admitted to the Eastern Fever Hospital next day with membrane on the soft palate to the left of the uvula.—16th: The greater part of the left side of the palate is covered with thick jelly-like membrane. During the next week the membrane gradually cleared off, but at the same time an oval piece sloughed out of the left anterior pillar, leaving a hole which would admit a cedar pencil. No sign of diminution in its size appeared while she was with us. Summary of the convalescent stage.—30th: Nasal voice.—Sept. 10th: Paralysis of accommodation.—28th: Attacks of vomiting.—29th: Patellar reflex lost. It was excessive, as often happens, for about two weeks before disappearing. Albuminuria, which had appeared on Aug. 8th, disappeared by Sept. 6th.

CASE 2.—A. K——, aged eight, complained of sore-throat on Feb. 22nd, 1891. On admission to hospital on Feb. 25th there was membrane on the uvula, tonsils and soft palate. A watery discharge from the nose.—March 1st: Uvula encased in discoloured membrane.—2nd: Urine contained much albumen (none on admission).—4th: Voice slightly nasal.—9th: Slough of an oval piece of the left anterior pillar; occasional vomiting; knee-jerks exaggerated.—11th: Drinks return through the nose.—14th: Knee-jerks absent.—30th: Loss of accommodation. April 14th: Strabismus.—15th: Albuminuria ceased; cannot stand alone.—25th: Accommodation regained.—May 5th: No improvement in locomotion.

CASE 3 (from the notes of a colleague).—N. S——, aged two, was admitted to hospital on July 14th, 1891. Bright injection of fauces and soft palate. Yellowish solid-looking deposit on both tonsils.—18th: Deposit has not yet cleared off.—22nd: Well-marked purple bloom on the fauces; a small hole through the right anterior pillar where a piece seems to have sloughed through, large enough to admit a bodkin; no sequelæ.

Now, with regard to scarlet fever, I have recently seen two children with small perforations of the soft palate and a child, who died, in whom most of the soft palate had disappeared. I have also before me the notes of two other cases, one of whom died of pneumonia and nephritis. These I did not see. My observations up to the present time would lead me to think that the most complete and permanent perforations occur in diphtheria. The striking features about them are the similarity of their position (just above the last molar tooth) and the absence of any indication of repair, their edges being as smooth and uniform as those of a gastric ulcer.

Homerton.

CASE OF DISLOCATION OF THE METATARSAL BONE OF THE GREAT TOE.

BY T. CAMPBELL GREY, M.R.C.S., L.R.C.P. LOND.,
RESIDENT MEDICAL OFFICER, SWANSEA HOSPITAL.

R. R——, aged twenty-two, engineer, was brought to the Swansea Hospital on June 13th with a recent injury to his right foot. The accident happened in the following manner. The patient's right foot was on the step of an engine, the posterior part being supported by the step, but the anterior part projecting beyond it. The crank of the engine in its descent struck the projecting part of the foot on its inner and anterior aspect. On examination the skin was abrased over the inner side of the dorsum; the big toe was fixed, the patient being unable to move it; there was a prominence about an inch in front of the tubercle of the scaphoid on the inner part of the dorsum formed by the anterior articular surface of the internal cuneiform; on the inner border of the sole below and behind this was another prominence produced by the displaced base of the first metatarsal bone; this caused a shortening and depression of the arch of the foot. There were no fractures or displacements of any other bones of the foot. I first attempted to reduce the deformity by traction alone, but failed; then, aided by an assistant who pushed forward with his thumb the base of the displaced bone, I was enabled to replace the bone without any difficulty. The case was treated in the usual way; no sloughing of the skin took place, although there had been considerable bruising and at the end of a fortnight the patient was able to begin to use his foot. The rarity of this displacement, unless accompanied with severe injury to the foot, is sufficient excuse for placing the case on record.

Swansea.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se compare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

LONDON HOSPITAL.

TWO CASES OF PERINEAL PROSTATECTOMY.

(Under the care of Mr. C. MANSELL MOULLIN.)

THESE two cases illustrate exceedingly well the advantages and the risks of perineal prostatectomy. In the first complete retention was caused by a comparatively slight degree of overgrowth; the gland had spread up the neck of the bladder along its posterior and left lateral wall until it formed two projecting nodules which, meeting over the orifice when the muscles were set in action, effectually closed it. All that was needed was the excision of the offending mass and the division of the growth beneath it in the neck. By this the obstruction to the exit was completely removed, and then the wall of the bladder, which had lost all power of contraction from over-distension, began slowly to recover. Fortunately there had been no previous cystitis, so that the failure in expulsion was due to atony alone and not to the infiltration of the muscular coats by the products of chronic inflammation. In such a case there can be no doubt the perineal operation is the most suitable. The supra-pubic would probably have given equally great relief, but it is certainly more dangerous; cystotomy and drainage might have succeeded, but where it is practicable it is infinitely preferable to re-establish the natural route, and the remaining alternative, catheterism four times a day—by the patient himself or an attendant—could only have had one result. In the second case the conditions were entirely different. Here the lateral lobes were the offending structures; their upward growth had raised a fold between them behind the vesical orifice, but this was firm and rigid, not valve-like, and, though it might have led to the production of a post-prostatic pouch, would not of itself have caused complete retention. The chief difficulty, if not the whole, was due to the way in which the increase in their thickness had compressed the urethra into a narrow slit, through which it was not easy to force the finger. This—aided no doubt by the stricture in front—had created a degree of resistance which the wall of the bladder, weakened as it was by long-continued chronic inflammation, was unable to overcome. Catheterism had become impracticable. The supra-pubic operation would almost certainly have proved fatal, and would not alone have relieved the stricture. Probably in such a case it would have been better to have been content with simple drainage. The bladder

regained a certain amount of power and for a time was able to expel urine through the perineal wound at intervals of two hours; but the task of repair was too great and the sloughing continued to spread. Both lateral lobes have been removed successfully through a perineal incision by Landerer and Willett and one by Wishard; but another case in which the last-named surgeon operated terminated fatally from pyelitis three months later. On the whole the space available is so small and the bruising inflicted during the manipulation is so great that in those cases of prostatic retention in which the chief seat of obstruction is in the lateral lobes it seems preferable either to perform the supra-pubic operation as practised by McGill, or to resort to simple drainage, according to the condition of the patient, and not to attempt complete enucleation through a perineal incision.

A. J——, a printer seventy years of age, was admitted into the London Hospital on Feb. 12th, 1891, suffering from prostatic retention. The patient was thin and rather wasted in appearance. According to his own account he had always been healthy, although he was suffering at the time from varicose veins and a large chronic ulcer on each leg, until about three weeks before, when he noticed that there was some difficulty in micturition and that the urine did not come in a full stream. He admitted, however, that his night's rest for some time previously had been a good deal interrupted. Retention was complete. A silver prostatic catheter passed easily, but a soft one was brought to an abrupt stop just beyond the bulb and could not be introduced without a stylet. The bladder held from twenty-eight to thirty ounces of urine and had practically lost all power of expulsion, the stream flowing away and following the respiratory movements. The urine was acid, sp. gr. 1013, and contained a trace of albumen and a few blood-corpuscles. The amount was very variable—thirty ounces one day, sixty the next. This continued for a fortnight, no urine coming without a catheter and the bladder not regaining any of its power. The prostate per rectum was only moderately enlarged; from the ease with which a full-sized catheter passed and from the very small quantity of blood in the urine it was fairly certain that the retention was not due to an attack of congestion or thrombosis, which would pass off again. The length of the prostatic urethra was not much increased; from the way in which a soft instrument was stopped the middle lobe certainly projected forward into the channel, and it was therefore determined to make an examination with the finger and if the diagnosis proved correct to remove the obstruction as far as might be practicable.

The operation was performed on Feb. 24th. The perineum was soft and devoid of fat, and as the prostatic urethra was scarcely longer than normal, there was no difficulty in reaching the bladder. The median lobe was found projecting forwards into the neck and was removed by means of a wire écraseur passed around it, and the top of the left lateral lobe, which had also grown out, was taken off in the same way. An incision was then made along the floor of the urethra in the middle line behind, and the firm tissues torn through by the pressure of a steel director, with the object not only of removing the valve but of establishing a low level channel and keeping the post-prostatic pouch empty until its walls had recovered their tone. A drainage-tube of full size was inserted through the wound into the bladder and continued into a receptacle by the side of the bed. The hæmorrhage at the time was very slight, but a considerable amount of venous oozing persisted throughout the night. The shock, probably owing to this, in great measure was very severe, the temperature falling as much as two degrees, but the specific gravity of the urine that was collected remained practically the same. For some days the patient's condition was critical; there was no fever, the pulse remained strong and a fair amount of food was taken; but he became delirious, losing all control over his actions, and required to be watched constantly. Partly for this reason, partly because the regular washing out of the bladder caused a great deal of pain and disturbance, the tube was withdrawn at the end of a week and the bladder allowed to drain itself through the wound. The urine became alkaline at once, but the decomposition was kept under control by occasional irrigation with corrosive sublimate lotion, a drachm or two of iodoform emulsion being injected afterwards and left in. With the exception of the gradual diminution of the delirium very little progress was made until the end of the third week; then the urine began to come through the urethra, the reaction became acid again, irrigation was stopped and the wound rapidly closed in. After this the bladder slowly regained its power and by the beginning of April the amount of residual urine was reduced to half an ounce. At the time that he left the hospital (April 13th) the patient was still compelled to pass his urine at intervals of two or three hours, but the condition of his bladder was steadily improving, his general health was perfectly satisfactory and there was every reason to believe that the progress that had been made during the past few weeks would continue.

T. J——, a silk weaver sixty-six years of age, was admitted into the London Hospital on Dec. 22nd, 1891, suffering from retention. For the last nine years patient had been unable to pass urine without a catheter, which he had been in the habit of introducing for himself. On examination a stricture admitting a No. 5 was found at the bulb with several false passages radiating from it and a moderate enlargement of the prostate, the finger in the rectum being just able to reach its upper limit. The urine, the amount of which varied from forty to sixty ounces per diem, was alkaline, sp. gr. 1010, and contained a small quantity of albumen, with pus, blood and squamous epithelial débris. For some nights after admission he was more or less delirious, evidently suffering from incipient uræmia. This gradually passed off and as the general condition improved, while the difficulty of passing a catheter grew greater and greater, it was determined to divide the stricture, drain the bladder through the perineum and at the same time remove the prostatic obstruction. The operation was performed on Jan. 12th. The urethra was laid open and the prostatic portion examined with the finger. By passing in a sound by the side of it and hooking it against the trigone the bladder could be drawn down sufficiently to feel the neck, and it was found that the lateral lobes were much thickened and elongated and that they had raised up between them a fold of mucous membrane (which proved to contain an upgrowth from the prostate) across and behind the vesical orifice. The median bar was divided, but as this did not give much relief an attempt was made to enucleate a sufficient portion from the lateral lobes by incising the mucous membrane, covering them and working at them with the finger and a Volkmann's spoon. Upwards of a dozen nodules, varying in size from a pea to a hazel-nut, were shelled out in this way; the channel freely opened, so that the finger could be introduced without difficulty, and a drainage-tube of full size secured in the wound and arranged so as to carry off the urine. The anæsthetic given was ether, and the patient stood the operation and the constrained position well; but shortly after being placed in bed the breathing failed and the pulse became exceedingly feeble. Artificial respiration was resorted to and stimulants given freely until the condition of collapse passed off. The next day the pulse was very weak and irregular and, though a fair amount of liquid food and stimulants was taken, the patient continued in a condition of extreme prostration. The day following the temperature rose to 102° F. and the pulse at night to 140. Under the influence of hypodermic injections of digitalin this fell to 100 in the course of the next two days; the strength and fulness of the beat increased; the amount of urine which (though probably all had not been collected) had certainly fallen rose again to 70 oz., and occasionally even more, and for a time there was considerable improvement. The urine was voided at intervals through the perineal opening, the temperature fell nearly to normal, the appetite improved and the patient was evidently gaining strength, although when left to himself he lay in a drowsy, semi-torpid condition. The wound, however, remained in a sloughy state without showing any sign of healing, and a considerable amount of offensive pus came away when it was washed out and also with the urine. On Feb. 4th it was noted that there was some blood in the dressings and the following day about two ounces came away—a quantity small in itself, but sufficient in the patient's condition to make the temperature fall below normal and to bring back the prostration. This in its turn passed off and for some days there was again improvement, but the sloughy condition of the wound persisted, the temperature rose again and became more irregular, the hæmorrhage recurred in small quantities, until at length, on March 15th, as much as four ounces escaped and the patient sank the following day. At the post-mortem examination it was found that practically the whole of the prostate had been removed, a few sloughing shreds around the wall being all that was left. The route into the bladder was perfectly free (a catheter passed in easily through the penis during life), but there was scarcely any evidence of repair. The liver showed an early stage of amyloid disease; there was an old encysted empyema in the right pleura the

existence of which had not been suspected during life; one kidney was very small and contracted, the other was larger, but the pelvis was inflamed and there were some small suppurative foci under the capsule.

MANCHESTER ROYAL INFIRMARY.

ACUTE INTESTINAL OBSTRUCTION DUE TO BAND; OPERATION; RECOVERY.

(Under the care of Mr. G. A. WRIGHT.)

THESE cases are always worth recording, as showing the value of exploration in intestinal obstruction—a proceeding which adds little to the danger of the condition and saves at least some lives which would necessarily be sacrificed by treatment without operation. For the notes of this case we are indebted to Mr. C. P. Montgomery.

The patient, a young man of twenty, was admitted to the infirmary on March 24th, 1892, with the following history. About eighteen months previously he had an attack of "inflammation of the bowels," with symptoms of (1) constipation lasting for about a week, a little flatus only being passed during the first day or two; (2) a dull pain, not sharp or griping, referred to the region of the umbilicus; (3) vomiting of green bitter matter. At the end of a week the pain subsided, and, on taking salts, the patient passed copious motions and completely recovered, no abdominal tenderness remaining. A month or two later he had another attack of precisely similar character, subsiding in the same way.

On admission the patient was pale, thin and cadaverous-looking. Since the previous Sunday, five days before, he had not had his bowels moved and had passed little or no flatus. Pain and vomiting had been of the same character as in his previous attacks, but more severe and continuous. The abdomen was full and tense, with a peculiar solid feel. There was no tenderness on pressure over the cæcal region, or indeed over any part, and there were no signs of hernia. The patient's diet was restricted to a little beef-jelly, warm cloths were applied to the abdomen and one grain of opium in a pill was given every eight hours. Temperature 99°; pulse 105. Next day there was less vomiting and the patient passed a little flatus, but this improvement did not continue. The vomiting and pain increased, and in the evening of March 28th, four days after admission, the vomiting became stercoraceous in character and the patient much weaker.

March 29th.—An incision three inches long was made in the linea alba, midway between the umbilicus and pubes. On the peritoneum being opened a quantity of turbid serum escaped and the coils of intestine exposed were full, dark and rather congested in appearance. The cavity was explored with the finger and about on a level with the brim of the pelvis towards the left side a sharp tense band, like a thin piece of whipcord, was felt passing between two coils of intestine and constricting a loop of gut behind. There was considerable matting of the coils of gut, especially behind this band, and it could not consequently be exposed to view. There was no inflammatory collection or special adhesion of coils in the cæcal fossa. This band was divided with scissors and passed into the cavity; the peritoneum was washed out with boracic lotion and the wound closed with three deep sutures through the whole thickness of the abdominal wall and peritoneum and a few superficial skin ones.

30th.—Early this morning the patient passed a copious motion. No pain, tenderness or fulness of the abdomen and temperature normal. The patient is kept well under opium and nothing given by the mouth except a few teaspoonfuls of hot water. No vomiting.

31st.—Beef jelly in small quantities given by the mouth. In the morning the general condition was most satisfactory, but in the evening (9 P.M.) the temperature rose to 102°, with a pulse, full and soft, of 146. At midnight the temperature was a point less, but the pulse was 160 and the patient much weaker. There was no pain or abdominal distension. Some opium was given, and three ounces of brandy were taken during the night.

April 1st.—Morning temperature 98° and pulse 102. In the evening the temperature only rose to 98·6° and pulse 116, while the general condition was good. No pain or distension.

14th.—From the above date till now there has been absolutely no change in the condition of the patient. His temperature has never been above normal or his pulse above 100 and he has had no pain of any sort. His diet was confined to beef-jelly till a week ago and was then extended to milk and custard pudding. Last night the bowels were moved twice, the motions being very hard. An enema of half an ounce of glycerine was given and a copious motion followed.

16th.—Wound dressed and stitches removed; healing perfect. Simple enemata ordered every third day. General condition excellent. Fish diet ordered and Battley's solution reduced to five minims at nights.

22nd.—Patient brighter and fresher looking; diet, fish and fowl alternately.

May 4th.—The patient was discharged to-day. Since the last entry his bowels have been moved every day and he has gained weight and strength. All abdominal distension has gone and there is no trace of pain on pressure.

The history of this case corresponded well with the condition actually found at the operation—i.e., local peritonitis with resulting matting and formation of adhesions, one of which probably constituted the band. The absence of any severe symptoms and the previous recoveries seemed to justify the delay in operating, but as soon as his condition became really bad the abdomen was explored and no doubt it would have been safer to have done this even earlier. The somewhat alarming symptoms on the night of the second day were believed to be due rather to prostration than to any serious local mischief, possibly to shock from fæces passing for the first time through an injured section of gut, and stimulation was attended with satisfactory reaction.

We also give the following account of another case which was operated on by Mr. Wright a few weeks before, and which presents so many points of similarity that we append it for the sake of comparison, although the operation was performed in private and not in the hospital. Whether in this case the band was the result of previous peritonitis or not must remain uncertain. It is improbable that it was of such recent formation as the attack of abdominal trouble ten days before the illness of which details are given and it seems more likely that the trouble lasting from Feb. 7th to the 13th was also the result of the presence of the band. The fact that it was so thin that it tore through quite readily makes it unlikely that the band was due to any persistent fœtal relic. Perhaps the most likely theory is that it was formed at one of the early attacks in the previous autumn.

T. C——, aged about twenty, had a slight attack of peritonitis lasting from Feb. 7th to 13th, 1889, but soon recovered. It appears he had previous attacks in October and November. He was taken ill again rather suddenly after dinner on the 24th. At 9.15 P.M. Mr. Burd was called in. He found the man complaining of very severe pain in the abdomen, which was increased on pressure. The pain was localised to a spot on a level with and slightly to the right side of the middle line of the abdomen, which was tympanitic and slightly swollen. All solid food was vomited, but liquids were sometimes retained. The bowels had not acted for three days. Temperature 100°; pulse 116. Morphia (one-third of a grain) was injected subcutaneously, ice was given to suck and turpentine stupes were applied.

On Feb. 25th the patient was seen twice, the pain and vomiting had ceased and he had slept after the morphia; but in the evening the symptoms recurred, and another dose of morphia was given and an enema of soap-and-water administered, but without result. On the 26th he was somewhat better; on the 27th the abdomen was more distended. Examination of the rectum revealed no cause of obstruction. Temperature 101°; pulse 100. Morphia repeated. On the 28th there was no improvement. Morphia was injected twice. Temperature 101°; pulse 120.

March 1st.—Patient much worse; vomiting distinctly stercoraceous; pain and distension greater. Mr. Burd finding that treatment by opium and starvation after a full trial had failed to give relief advised that Mr. Wright should be asked to operate.

On March 2nd the patient was first seen by Mr. Wright. At that time there was complaint of pain at the umbilicus and in the iliac region, but no iliac tenderness or fulness. There was no visible peristalsis; there was moderate distension of the abdomen. The diagnosis was made of probable matting together of the intestines, and it was decided to open the abdomen. An incision one inch and a half long was made just below the umbilicus, and on passing the finger into the abdominal cavity a band was almost at once felt lying close beneath the opening, the aperture formed by the band was about the size of a five-shilling piece, and through it bowel passed. On making traction upon the band to bring it to the

surface it gave way; its thickness was no greater than whip-cord. The abdomen was closed and dressed in the usual manner. In the evening after the operation the pain was much less, but not quite gone. There had been no vomiting. Temperature 98·8°; pulse 108. During the night of the 2nd the man passed flatus and the bowels acted naturally the following morning. The abdomen had so much diminished in size that the dressings had all slipped off. The temperature was normal; pulse 80; there was no vomiting. The appetite returned and in the evening the bowels were again open. A half-grain opium pill every four hours was ordered and milk-and-soda-water was allowed. The case went on well and on the 12th the patient was allowed to get up. On the 22nd Mr. Burd saw him for the last time and he was permitted to go out of doors. He has continued well since.

Reviews and Notices of Books.

A Dictionary of Treatment, or Therapeutic Index, including Medical and Surgical Therapeutics. By WM. WHITLA, M.D. Pp. 948. London: Henry Renshaw. 1892.

A WORK which is so comprehensive in its design necessarily demands much thoughtful consideration, not only from the writer, but equally from the reviewer. Dictionaries are proverbial in not affording material which can be read with pleasure or profit for any length of time. They must be tested at intervals for a due appreciation of their merits and defects. When, as in this volume, both medical and surgical therapeutics are included, the reviewer necessarily approaches his task with a sense of diffidence, conscious of the serious issue of attempting to arbitrate upon subjects covering such a wide range, and anxious to do justice to a work which must have cost the author considerable expenditure of time and labour. It may at once be said that Dr. Whitla has very fairly succeeded in what might almost have been thought to be a superhuman task, in supplying a book which is intended to serve as a guide to the practical treatment of almost everything that is capable of being treated by drugs. The title of Dictionary is used in its widest sense, the principle followed being to arrange in alphabetical order a series of short articles to which the name of a symptom or of a disease furnishes the title. In plan therefore it differs but little from the ordinary therapeutic index which is so often found at the end of text-books of materia medica. From such an index however it differs in the attempt to indicate not only what drugs may be employed, but also the relative amount of advantage that may be expected from them. As usual it will be found that the list is longest where the results are most doubtful and unsatisfactory. Thus five pages are devoted to the treatment of asthma, though it is admitted that the means which afford speedy relief to one patient may aggravate the paroxysm in another, and several of the drugs appear to be only mentioned for the sake of condemning them. As a rule very little is said about the symptoms of the various diseases, but occasionally this rule is usefully broken when most important hints upon treatment depend upon the etiology of the disease. Another satisfactory point worth noting is that Dr. Whitla by no means ignores the value of dietetic and other measures which may be serviceable independently of the action of drugs. Thus, under the heading of Aneurysm, Tufnell's treatment is given in some detail, while the results following acupuncture and galvano-puncture are also discussed. Again, under Diabetes the author quotes at length no less than eight dietaries which have been recommended for this condition. The utility of the general directions for the treatment of dislocations and fractures may be doubted, but the incorporation of the recommendations of the Royal Humane Society for the treatment of those apparently drowned are likely to be of service. A great deal of space is devoted to Valvular Lesions of the Heart and here the dictionary element is kept in the background; while due prominence is given to the clinical history of the various phenomena commonly associated with these lesions. The writer here permits himself to wander into the picturesque, speaking of coming to "close quarters with the enemy," of "our tried and trusty weapon," and of "skirmishing at long range," all these warlike terms seeming to arise quite naturally after the mention of a "halting ventricle." Still, in spite of these embellishments, this section supplies many useful memoranda, and it should be studied leisurely and in detail instead of being referred to hurriedly when a case of difficulty arises. Less satisfactory is the amount of space devoted to Hydrophobia; the five pages might almost be summed up in a line: "Despatch the patient to Pasteur," this being the logical outcome of the details given from Dr. Roux's statistics and from the lengthy account of the minutiæ of treatment at the Pasteur Institute.

It is impossible to criticise the book in further detail. It must suffice to say that, so far as we have tested it, the directions in general appear to be simple and straightforward. While not overlooking the importance of many of the newer remedies Dr. Whitla is careful not to be led into exaggerated statements which can only cause disappointment, and on many occasions where he quotes recent observations he does so with due reservation. The book is remarkably free from printer's errors and is printed in clear type on good paper. It is also rendered more practical by the insertion of numerous formulæ which the author has found valuable or which he has culled from other sources. In a later edition we should be glad to miss the somewhat frequent references to proprietary remedies, soaps and foods.

A Manual of Chemistry, Inorganic and Organic, for the Use of Students of Medicine. By ARTHUR P. LUFF, M.D., B.Sc. Lond., M.R.C.P. London: Cassell and Company (Limited). 1892.

STUDENTS of medicine have some difficulty in deciding upon a suitable text-book of chemistry simply because the publishers' lists teem with them. Some manuals are in their way and to an equal degree excellent, some contain prominent imperfections, others are of little or no value at all, while most of the authors generally claim to be familiar with the exact requirements of the class of reader for whom the books are intended. Dr. Luff, the author of the work before us, is fully entitled to the last claim. He has had considerable experience in the teaching of chemical science and especially those sections of the science which bear on the study and practice of medicine. This would lend additional value, of course, to a work which bears his name. All the more disappointing, therefore, is it to note that his book is marred by not a few serious blunders which we may proceed to point out *seriatim*. On page 16 we read: "The molecules of all the other elements [mercury, zinc and cadmium having been cited as examples of molecules containing only one atom] contain two or more atoms; a molecule of potassium contains two atoms and is expressed by the formula K_2; the molecule of lead, also two atoms, Pb_2"; in fact the only elementary bodies, the author goes on to say, containing more than two atoms in the molecule are phosphorus and arsenic. The fact of the existence of a hexatomic molecule of sulphur, by the way, is apparently ignored. He accordingly assumes that the molecular weights of lead and potassium, as well as the rest of the elements, are known with certainty. As a matter of fact the molecular weights or the atomic values of a molecule are only known in the case of fourteen elements, and of these the majority are either non-metals or semi-metals. By far the greater number of the elements are ordinarily speaking non-volatile, as, for example, carbon,

silicon, gold, platinum, or else of such a nature that it is impossible to determine their vapour density.

As if to be in thorough discord with these statements, we find in subsequent pages iron represented as Fe_3, copper as Cu_3, lead as Pb_3, Tin as Sn_5 and so on. On page 115 the formula of nitric oxide is written N_2O_2; and accordingly its molecular weight is regarded as 60 and its specific gravity 30. Notwithstanding this it is described merely as "heavier than air" (specific gravity of air = 14·4) whereas, according to the above formula, it would weigh more than twice as much. As a matter of fact the specific gravity of nitric oxide is 15, its molecular weight 30 and its formula NO, while it is a gas but slightly heavier than air. We may be pardoned, in addition to these instances, for pointing out some of the typographical errors we have noticed. Nitric acid, for example, is represented on page 117 as $OHNO_3$, and on page 501 ammonium oxalate is written $(NH_4)C_2O_3$, and sulphuric acid HS_2O_4. In the table for the examination of metals, page 499, no provision is made, it may be remarked, for the detection of a lead salt in a dilute solution. Such a solution would not give a precipitate with hydrochloric acid as indicated, but with sulphuretted hydrogen a black precipitate would be obtained. The sulphuretted hydrogen test for lead, indeed, is not even mentioned in this table. Amongst the tests for tin the beautiful purple colour (purple of Cassius) produced on adding auric chloride to a stannous salt is not included, although the reducing action of stannous salts is described.

We have quoted enough to show that the book requires very careful revision, especially if it is meant to compete with existing works of its class; it is evident that more care than has hitherto been taken need be exercised with the proof sheets, and although the general plan and scope of the work will probably appeal to those for whom it is intended, yet it cannot be safely recommended until it is freed from the flaws to which we have made reference.

Practical Midwifery: a Handbook of Treatment. By EDWARD REYNOLDS, M.D. New York: William Wood and Co. 1892.

IN the preface to this work the author, who is assistant in obstetrics in Harvard University, states that it "is an attempt to furnish to students and inexperienced practitioners a full description of those practical details of conduct which are necessary to the management of every case of gestation, labour, or the convalescence therefrom. It further aims to supply to such men a concise description of at least one method of dealing with each of the emergencies of obstetrical practice." Again, the writer tells us that "the book is mainly intended for the use of those who have already assimilated the more comprehensive but perhaps less definite information which it is the province of the systematic text-books to supply." It will thus be seen that Dr. Reynolds considers that, notwithstanding the numerous text-books on obstetric medicine which already exist, there is room for another, which is to be essentially practical. Let us see how far the book is a success in this direction, for it must be admitted *in limine* that as a scientific guide the volume is far from satisfactory. In treating of the differential diagnosis of pregnancy the author says, writing of fibro-myomata, "slight enlargements of the non-pregnant uterus from the presence of interstitial fibroids may sometimes give rise to the suspicion of early pregnancy. The distinctive points are, however, the greater hardness of the uterus where the enlargement is due to the presence of myomata, the absence of Hegar's sign, the fact that such a uterus is almost always asymmetrical and that the tumours are seldom single and therefore usually present a more or less lobulated outline." We think men of experience will admit that it is the soft œdematous myoma which most closely resembles the pregnant uterus, and of this variety our author says nothing. In calculating the duration of gestation no reference is made to the practical plan suggested by the late Dr. Matthews Duncan. In reference to the malpositions of the uterus during pregnancy Dr. Reynolds says (speaking of anteversion): "When such a displacement is the cause of annoying frequency or pain in urination, relief may be obtained by recommending the patient to pass as much time as possible in the recumbent position and upon the back; but in any case where the distress is sufficiently extreme to demand immediate relief this may usually be obtained by the introduction of a suitable pessary, such as is ordinarily used in anteversion of the non-gravid uterus." If Dr. Reynolds had first demonstrated that the annoying frequency or pain in urination was due to the displacement, there would be some ground for the treatment suggested; and when he speaks "of a suitable pessary such as is ordinarily used in anteversion of the non-gravid uterus," we must ask him, has he read the literature of the past few years on this question? Surely this bogey of anteversion may now be suffered to remain at rest.

In reference to hydramnion, the author recommends puncture of the membranes or aspiration of the uterus through the abdomen. "This latter operation, if done with sufficient care and with absolute asepsis, should be ordinarily attended by no danger and is usually the better treatment, since it may be followed by a continuance of pregnancy to term." We should like some further information on this point and an account of a series of cases in which this "better treatment" has been employed.

In his remarks on forceps operations, Dr. Reynolds says: "It is a safe rule that forceps should never be applied unless both fontanelles or one fontanelle and an ear have been surely recognised." We are afraid, if this rule were always adhered to, many women and children would suffer. We cannot agree in his recommendation of pilocarpine in eclampsia, and in his remarks on placenta prævia the author devotes too much space to the use of the tampon and too little to the method of Dr. Braxton Hicks. While we have freely criticised some parts of the book, there are others which we can most cordially praise. His remarks on "Antisepsis and Preparations for Labour," on the "Preservation of the Perineum," on the "Management of Breech Presentation," and on the "Treatment of Septicæmia," are well worth reading. In conclusion, while we cannot recommend this work as one to take the place of the many useful text-books on obstetric medicine which exist in this country and in America, we believe that teachers, practitioners and students will in its perusal obtain many useful hints.

Land, its Attractions and Riches. By Fifty-seven Authors. London: The Land Roll Office.

THE editor of this volume has persuaded himself that his object in the undertaking to which he has addressed himself is the national one of attracting capital to the land and thereby restoring the rural population, procuring a renewal of prosperity for the British farmer and both directly and indirectly benefiting commerce. His book will leave upon his readers the impression of being a very elaborately got up circular serving to advertise the eligible properties offered for hire and sale by an eminent firm of land agents in Lincoln's-inn-fields. There is no reason in the nature of things why a business circular, drawn up in literary form, should not make a very readable and useful book; but having conscientiously discharged the reviewer's duty upon this volume, we are driven to confess that it is rather heavy reading.

Diseases of the Nasal Organs and Naso-Pharynx. By WHITFIELD WARD, A.M., M.D. New York and London: G. P. Putnams and Sons. 1891.

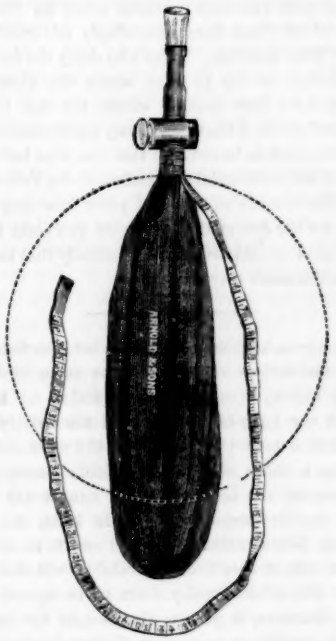
THIS is a well-written little book of 165 pages. The type is good and clear and the illustrations generally well

executed. By the exclusion of much that is doubtful and by a concise method of expression the author has managed to compress into this book much that is useful and important regarding what is known of nasal diseases. A judicious selection of prescriptions is here and there inserted. The size of this work forbids its pretence to be anything like a complete treatise on the subject. At the same time we think the directions for operating in some instances are too meagre and we note with surprise how little attention is drawn to the methods of operation for adenoid growths and their symptoms and pathology. This little book will, however, be a useful addition to any medical man's library.

New Invention.

A SIMPLE AND PORTABLE SPIROMETER.

THE spirometer is an instrument now little used, more on account, perhaps, of its bulk and cost than anything else. This infrequency of use may also be attributable to the fact that the instrument has one use only—viz., the capability of determining one condition—vital capacity, without affording indications of the correlating factors which modify it, and the most important of these is expiratory



force. The accompanying engraving represents a very simple, practically efficient spirometer made for me by Messrs. Arnold. Its capacity will prove equal to all requirements. It consists of an elastic bag exceedingly easy to distend, with a tape affixed whereby the degree of distension can be measured. Expiratory force can be determined by employing thicker bags, which require greater effort to distend, or by making use of a broad elastic tape to surround the bag, instead of the tape generally used.

Crouch-end. JAMES MACMUNN.

THE MEETING OF FELLOWS AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

IT was scarcely to be expected that a meeting of Fellows of the Royal College of Surgeons of England summoned by the Council without any definite object in view and without any programme of business stated in the summons would lead to any definite results. If it had been originally intended to place before the Fellows all the resolutions which the Council passed at the instance of the committee which sat to consider what further advantages could be extended to the Fellows and the best mode of celebrating the Jubilee of the Fellowship; it is to be regretted that this was not done. Instead of this, the President informed the meeting that there was nothing particular to be brought forward for discussion and then invited the Fellows present to express an opinion only upon the proposals which had been made in regard to the celebration of the Jubilee, carefully excluding the more important resolutions with regard to advantages to the Fellows. Strange as it may appear, there were several Fellows present who were not aware that any resolutions whatever had been passed by the Council which concerned their interests. Consequently a natural complaint was elicited from Mr. Crosby that no notice had been sent to him from the Secretary intimating that it was the intention of the Council to celebrate the Jubilee of the Fellowship. Thereupon the President directed the Secretary to procure and to read to the meeting the report on the public celebration, which was done; but the meeting not having any organisation or cohesion, and having assembled in a spirit of curiosity and readiness to receive whatever might be vouchsafed to them, did not show any signs of a desire for more substantial fare. A long pause ensued, and but for the intervention of Mr. Holmes the assembly might have dispersed without any discussion. Mr. Holmes rose to express his gratification at the action of the Council in calling the Fellows together, his approval of the arrangements for celebrating the Jubilee of the Fellowship, and to call attention to the desirability of the Council consulting the Fellows of the College before coming to a decision on matters of great professional interest and importance, instancing the University question and the five years' curriculum. His remarks were couched in a friendly and courteous vein and there was nothing to invite the attack which was made on him by Mr. Christopher Heath. Most gladly should we have abstained from alluding to the subject if a sense of professional duty did not compel us to deprecate the spirit and substance of Mr. Heath's remarks, and we shall only add that the sense of the meeting was admirably expressed by Dr. W. J. Collins, who in a few well-chosen words expressed his deep regret at such an episode occurring at a friendly conference at which it was understood that the hatchet was to be buried. Dr. Collins concluded with a suggestion, of which Mr. Howse expressed his approval—viz., that the Fellows should choose a body like the annual Committee of Convocation of the University of London to consider questions affecting the interests of the Fellows and to be the medium of communication between the Fellows and the Council. Before another meeting of Fellows is called we must hope that the Council of the College will see its way to adopt regulations under which the proceedings may be conducted in a formal and businesslike manner. We trust also that the President or other chairman at these meetings will not allow personal attacks to be made in the future.

VICTORIA INFIRMARY DISPENSARY, GLASGOW.—The ceremony of inaugurating the dispensary in St. James-street, Paisley-road, in connexion with this infirmary, took place on the 4th inst. It had been for some time the intention of the governors to establish district dispensaries on the south side, but hitherto they had no funds to spare for that purpose. Under these circumstances Mr. A. Cameron Corbett, on behalf of himself and his sister, had presented the governors with 1000 guineas, which would enable them to equip the dispensary and work it for the next three years. It will be opened to the public on Wednesday next.

THE LANCET.

LONDON: SATURDAY, JULY 16, 1892.

THE result of the election to the Council of the Royal College of Surgeons of England which took place last week, gratifying as it is to ourselves, will be eminently satisfactory to all who are interested in the welfare and good government of the College. That Mr. THOMAS SMITH would head the poll was in accordance with general expectation and his success was thoroughly deserved. Mr. DURHAM'S re-election was by no means so certain and he received 82 votes less than Mr. THOMAS SMITH and 34 votes less than Mr. JOHN TWEEDY, who polled 237 votes (including 21 plumpers) and was second on the list of successful candidates. Mr. HOWARD MARSH, who received 200 votes and not a single plumper, and who took the fourth or substitute seat, was closely pressed by Mr. HENRY MORRIS with 188 votes (including 8 plumpers). At a considerable distance followed Mr. JEREMIAH MCCARTHY with 106 votes (8 plumpers), Mr. WILLIAM ANDERSON with 90 votes (1 plumper), Mr. MACKELLAR with 86 votes (3 plumpers), Mr. WARRINGTON HAWARD with 77 votes (including 18 plumpers), and Mr. GEORGE COWELL with 75 votes (4 plumpers). The total number of valid votes was 516—an increase of 73 over last year, when considerable apathy prevailed—and out of the 516 votes the number of plumpers was 74. With so many candidates and so uncertain an issue it was felt in certain quarters that the right course was to plump for a candidate whose return was specially desired lest he might lose his seat if the votes were split. Hence it was that Mr. TWEEDY received 21 plumpers; but as it happened there was no need for this precaution, and had these 21 votes been split in favour of Mr. HENRY MORRIS that gentleman would have been elected in company with Mr. TWEEDY and have stood third upon the poll. We have always deprecated the practice of plumping and it is satisfactory to note that in the four elections that have taken place under the new regulations it has not secured the return of a candidate. In 1889 there were only 33 plumpers out of 600 votes divided amongst eight candidates. In 1890 there were 92 plumpers out of rather more than 500 votes divisible among seven candidates, and no less than 53 of the plumpers were given to Mr. MITCHELL BANKS. Even this number of plumpers did not affect the result as regards Mr. BANKS, for he had a remarkable success, being no less than 141 votes in front of Mr. MARCUS BECK, who was second on the poll. If the plumpers had been split with the other provincial and progressive candidate, Mr. LAWSON TAIT, he would have gained the third seat at the election. In 1891 the plumpers were only 46 among five candidates and they made no difference in the position of the candidates in whose favour they were recorded.

The combinations of votes given at the present election were very instructive. Some voted for the four senior candidates, some for the four juniors; some voted only for candidates at the same hospital — St. Bartholomew's or St. Thomas's, for instance; some voted, as advised in THE LANCET, for the four candidates whose views were known to be favourable to the elevation of the Fellows; some voted for the four official candidates and some for the two most progressive candidates. But one circumstance could not fail to be remarked—namely, the greater frequency of Mr. TWEEDY'S name in the various combinations as compared with that of any other candidate. Mr. THOMAS SMITH received the official vote, the senior vote, the hospital vote and the progressive vote, but Mr. TWEEDY'S votes were still more varied. The one great feature indeed of the election was the brilliant success of Mr. TWEEDY. Let it be remembered that Mr. TWEEDY was the junior Fellow, that his name was last on the list of candidates, that his success was not desired by the official party and that his name had been associated with advanced measures of reform, and his election not merely to a seat on the Council, but over the heads of Mr. DURHAM and Mr. HOWARD MARSH to the second position on the poll, assumes an importance which it would not otherwise have possessed. A tribute it is to his sterling qualities and his personal merit, but it is also a significant intimation to the Council that a large and influential body of the Fellows are in favour of the views which have been advocated by the Association of Fellows (of which Mr. TWEEDY has been a most prominent member since its first formation) and which have been unceasingly advocated in the columns of THE LANCET. Those who decry the influence of the Association, or the progress which the views of the Association have been making within the last two years amongst the Fellows of the College, may yet find reason to alter their opinions, and to be satisfied that the time has come for making real and substantial concessions to the Fellows of the College. The records of the poll prove how easy it would have been for the Association to secure two seats this year, and with good candidates it is not unlikely that in the next election such a result may be secured.

THE disastrous landslip on the line between Bologna and Florence, the serious casualty of the same kind on the Vorarlberg railway, the appalling explosion on board the steamer on the Lake of Geneva, and the terribly destructive inundation near Chamonix, are the more outstanding from among a series of calamities which, occurring at the very opening of the holiday season, cannot fail to prove deterrents to the intending tourist in Italy, Austria and Switzerland. Whether these casualties were to be anticipated, or to what extent they were preventable, will doubtless be elicited at the official inquiry about to be opened on each of them. Murmurs, indeed, in the case of the first three, are already audible as to a more than probable neglect of duty on the part of railway and steamboat managers alike. Whether this be correct we cannot judge, but in Italy the public press has asserted that the "accident" on the Bologna line was no accident at all; that the landslip was a long-admitted danger of which warning had been given years and years ago, and that the reluctance to incur immediate expense, so characteristic of Italian enterprise, is responsible for an engineering inactivity the reverse of masterly. Strictures to the same effect may be gleaned from the accounts given of the steamboat disaster in Switzerland

The boiler is alleged to have been lately examined by an inspector, who is said to have "found cracks in it," but thought "it might run for another year." The Austrian contribution to this tale of casualties has also its candid critics, while it has got to be cleared up whether the Chamonix cataclysm was not more due to man's neglect than to "the visitation of God." Pending official investigation, we repeat, it is not for us to appraise the justice or the injustice of such charges, but the remark may surely be permitted us that if neither regard for public safety nor consideration for private interests can avail to deprive continental transit of its dangers, the inducements to venture life and limb along these familiar lines of route are very appreciably lessened. Of the three countries in which these "accidents" have occurred, Italy, Switzerland and, in a lower degree, Austria are dependent on the tourist season for a large proportion of their yearly revenue. The wave of travel which sweeps over them every summer or winter has in their case been likened to the inundation of Lower Egypt by the Nile—a visitation beneficent for all. But the deflecting of the Nile river above Khartoum and its diffusion over the surrounding desert would not be a more suicidal operation for Egypt than the wanton scaring away of the English-speaking visitors would be for Italy and Switzerland. A few more such disasters as those which have brought death and suffering worse than death to the travelling public on the Bologna route, and on the Lake of Geneva, and Italians and Swiss will have but themselves to blame for a loss of income which neither can afford to incur and at the same time live and thrive.

Last year there was quite an epidemic of railway accidents in Switzerland and on at least one very important line the shareholders had to submit to a total suspension of dividends. In Italy catastrophies of the same kind were far more frequent than usual. But in the case of both countries these were due to their traditional causes—collisions or landslips. Now, however, a new development of railway engineering has opened up fresh sources of danger, just long enough in operation to have given some earnest of the frightful consequences which neglect or failure on the part of an overworked and underpaid service may entail. We allude to the electric railways connecting the low-lying plain with the upland regions of the Alps and Apennines. Many of these are triumphs of engineering skill, in which the water-power of mountain torrents has been utilised for the generation of electricity required to "balloon" the passenger from lake or champaign to hill-plateau or aerial peak. The convenience of such modes of transit is immense, a few minutes sufficing to waft the tourist and his *impedimenta* up the mountain-side to its top, a destination which formerly could be reached only by long hours of toilsome zigzagging in a diligence or on mule-back. But the risks are also tremendous. In Switzerland who can have failed to observe a hill-side railway looking at a distance like a fire-escape propped up against a precipice and relying on the steadiness of its engineering safeguards to ensure the train against backing down with a run into the lake or the ravine below? Not many months have elapsed since the electric tram-service from Florence to Fiesole, on its descent from the latter terminus, got quite beyond the conductor's control and crashed into a roadside wall with its living freight, of whom the majority were either killed on the spot or maimed and injured for the rest of their lives. True, the precautions taken in such modes of transit are manifold; but the risks of accident are not less so, and who can say whether the casualties which have of late years multiplied on the familiar Swiss and Italian gauges, broad or narrow, may not have their counterpart in those mountain railways worked on principles so complicated and requiring an inspection more vigilant and a renewal of material more constant and thorough than the company's returns can well afford?

Of the sanitary dangers to which the English-speaking visitor is exposed—much less, it is fair to say, in Switzerland than in Italy—we have already treated. Year by year witnesses an improvement, even in the outlying tracts of the Italian peninsula, on the mediæval hotel appointments and service with which the sojourner in search of sun or rest had often to put up with. But this year we are more than likely to see a descent of cholera on the Mediterranean shores, with the authorities at the various seaports hardly more prepared for meeting it than formerly. Disbelief in quarantine and sanitary cordons is now, thanks to an enlightened hygiene, pretty well established in those regions. We wish we could point to a compensating advance in their public or personal cleanliness, in pure and abundant water-supply, or in a really effective system of drainage. One department of public health, it is just to indicate, the Italians have at length put on a satisfactory footing—we mean the protection of food and drink against deleterious counterfeits. The energy of the State inspectors in detecting adulterated bread stuffs, tainted meats, "falsified" wines and bogus mineral waters, and in summarily bringing their authors to justice, if it has shown the extent of the hitherto permitted evil, has also proved the thoroughness of the repressive measures brought to bear upon it. The extension of such real public service to other departments equally important in the common interests is imperatively required to reassure the English-speaking visitor or resident. Let such clients of the sunny south or of "the playground of Europe" be persuaded that they can reach their destination not only in comfort but with safety, and that when arrived there they will run no avoidable risks of disease, endemic or imported, and a satisfactory *modus vivendi* will soon be re-established, to the mutual advantage of entertainer and guest.

THE out-patient system has been let off easily by the Committee of the Lords. This is especially the case in the final portion of the report. Still a great mistake will be made if attention is not given to the evidence on this subject and to some of the admissions of the Committee in regard to it. We have already referred in a general way to the conclusions of the Committee on it, but the out-patient department is so huge and important in its bearings that we deem it necessary to revert to it again in more detail. The very existence of the out-patient department is of comparatively recent date, and in the hospitals of Edinburgh it does not exist. There they have a far larger proportion of medical students to their population than we have in London and also abundance of poor, but somehow or other the system

has not taken root. In the metropolis it has assumed vast — nay, alarming — proportions, so that all, whether from a social or a medical standpoint, are calling for some limit to be put to it; and not a few advocate its entire abolition. At the London Hospital 100,000 patients a year are treated, at St. Thomas's Hospital 25,000, at the Middlesex Hospital 38,000, at University College Hospital nearly 40,000. These numbers are spoken of with pride rather than with doubt, as if the hospital authorities were quite sure that they were doing right, and knowing well that the figures strike the public and move the charitable, who are not too inquiring in their turn of mind. At Guy's Hospital on a busy day 480 out-door patients are attended to, including casualty cases. It is a libel to say that patients are seen at St. Bartholomew's Hospital at the rate of one a minute, for it was estimated that, deducting the casualties (which are seen only by the resident staff) and the more serious of the out-patient cases, three or four minutes are devoted on the average to each of the remainder. The Committee admit that the number of persons coming for out-patient treatment often puts a strain on the powers of the staff. Some of the most doughty defenders of the out-patient department further consider that the vast majority of the cases are trivial and that the patients need only to be told to continue the treatment. The Committee go even further and say: "The majority of persons who present themselves at the out-patient department of a hospital come with trifling ailments *which are quite unsuitable for hospital treatment.*" The italics are ours. It is a resort according to some not only of the ailing, but of the idle and those who simply want to talk. At some hospitals the social aspects of the department are made still more attractive by the establishment of refreshment bars or coffee stalls.

The detention of those who are really ill in the out-patient rooms is an objection touched by the Committee, but not satisfactorily disposed of. The Committee suggest the incidental advantage that such delay may have in deterring unsuitable cases. This is just what on their own showing it does not do, seeing that the numbers go on increasing, including a majority quite unsuitable for hospital treatment. Those who are really ill suffer all the disadvantages of a rough and tedious system of attendance which attracts hundreds of thousands of unfit cases. The Committee, their "Conclusions" notwithstanding, have thus given strong confirmation to the belief of medical practitioners that the out-patient department is one that should be greatly curtailed in its proportions, and brought into touch with more self-respecting methods of treating sickness in the working classes. The Committee go with much detail into the further arguments against such wholesale arrangements. They deal with the objection that such a system is not only destructive of self-respect and providence in the poor, but is a gross injustice to the general practitioners who work in the crowded and poorer districts of London and the hardships and self-denial of whose life are known only to themselves. "A witness" was examined who expressed the opinion that the practitioners injured by the wholesale competition of the hospitals were not those whom it was generally desirable to protect. We are glad that such evidence proceeded from "a witness." We should be sorry to think that any plural number of witnesses throw doubt on the obvious fact that such hospital arrangements must operate against all practitioners. The Committee themselves admit as much in the following sentence under the head of Sweating of General Practitioners (p. 32, third report, 12): "The competition of free treatment would naturally tend to drive down the fees of the private practitioners, and this was stated to be an urgent evil and one which has been going on for ten or fifteen years." It cannot be denied by anyone whose eyes are not wilfully closed that between the attractiveness of out-patient departments and the introduction of petty payments by out-patients, conveying an idea that they are purchasing advice and medicines, the creditable reluctance to go to hospitals has been much broken down and that the medical practitioner has more and more been made a mere convenience chiefly at nights and in great emergencies. In days when working men did not get such good wages as they do now, numbers of them regularly employed and honourably paid a neighbouring private practitioner, who knew their children and acquired that knowledge of their family health and circumstances which doubles the value of medical attendance. The breadwinner himself might be in a club, but a reasonable midwifery fee and a pound or two moreover for the family doctor were easily and cheerfully provided. The great hospitals and the little ones are doing a great deal to upset such an honourable system and the fact is as good as admitted by the Lords' Committee, who go carefully into proposed remedies without much apparent confidence in their sufficiency, and who withhold that word of efficient condemnation for so huge an abuse which we think was expected of them. Inquiry into personal circumstances, limitation of numbers, and payment by patients to hospitals are each reviewed. In Manchester, as is well known, the unfit cases have been weeded out by an efficient system of inquiry and the numbers greatly reduced. In London such is the scale of population and the difficulty of estimating the status of the applicants that little effective work has been done. In 22,000 cases at the London Hospital inquiries were made in 800, or 1 in 27. What are these among so many? We can only remind hospital authorities that this great blot in their administration remains. The Committee have fastened responsibility for it upon them, and they will not be allowed to escape criticism till it is wiped out, and charity for really fit cases is encouraged by careful elimination of the unfit.

THE BOWMAN Lecture of the Ophthalmological Society was this year delivered before a numerous audience by the distinguished Professor of Ophthalmology at Heidelberg, THEODOR LEBER. For many years past Professor LEBER has been engaged in working out the pathology of the inflammatory process, which can nowhere be studied to greater advantage than in the cornea; and it is not surprising that he took that subject for his theme and presented to his hearers in a condensed form the contents of the large and important work he published a few months ago, the chief points in which we recently translated for the benefit of our readers. After a brief but appreciative reference to Sir WILLIAM BOWMAN and to the loss sustained by the

profession by his death, Professor LEBER acknowledged at once that we are indebted to Sir JOSEPH LISTER for the proof that the purulent inflammation following an injury is caused by inoculation of micro-organisms within the wound. Further inquiry has led to the discovery that their capability to give rise to inflammation and to disease in general depends upon the production of certain poisonous substances which in infinitesimally small quantities are able to cause inflammation and necrosis of the tissues of the body; whilst, on the other hand, the presence of an inert foreign body introduced antiseptically into the tissues leads to no inflammation whatever. Nowhere can this be more clearly shown than in the eye. If a small piece of gold or glass be introduced through a slight wound with due antiseptic precautions into the anterior chamber of a rabbit's eye no inflammation is excited, no pus is found, and this foreign body may continue visible for months or even years either in the aqueous or in the vitreous, which remain unclouded. From this fact it was easy to draw the conclusion that suppuration is only produced by the specific action of micro-organisms. Unfortunately, however, further experiment soon presented stubborn facts which militated against this theory; for a single drop of mercury, rendered absolutely sterile by heat, antiseptically introduced into the anterior chamber of the eye of an animal always gives rise to a circumscribed collection of pus in its immediate neighbourhood, which is distinguished from that which is produced by micro-organisms by the entire absence of microbes which can be shown by the microscope, or which can be obtained by culture experiments. But mercury is not the only substance that can induce suppuration. Metallic copper is equally potent, though Professor LEBER has observed remarkable differences in the effects produced according to the part which may happen to come into relation with the metallic fragment. Should it rest either on the iris or inner surface of the ciliary body, suppuration will certainly be produced; whilst a similar fragment produces no pus when situated in the lens, where it does not even produce complete opacity. The reason of this difference, he shows, lies in the fact that the fragment of copper when situated in the lens is completely enveloped by a thick coating of albumen which effectually prevents it from exercising its irritating chemical action. On the other hand, when in contact with vascular tissues copper immediately acts upon the vessels, an effect that is probably due to the copper being dissolved by the fluids of the eye, on which fact its power of provoking inflammation depends. One of the commonest causes of suppuration—the staphylococcus aureus—readily furnishes proof that its action depends upon chemical substances, for if a pure culture be perfectly sterilised the fluid containing them can still produce an intense purulent inflammation when injected into the anterior chamber.

The study of septic inflammation of the cornea shows that the action of the micro-organism extends far beyond the area of its development, so that, as Professor LEBER remarks, a sort of distant action must take place. The lecturer then proceeded to describe the keratitis caused by inoculation of micro-organisms. He took the case of a microbe developing in the centre of the cornea and showed that the effect in the area directly attacked consisted only of retrogressive changes in the cells ending in necrosis. At first, if the action of the microbe is sufficiently intense, neither migration of the leucocytes nor proliferation of the cornea cells takes place; but after a time there appears a zone of dense infiltration of pus corpuscles—which are in reality white blood-corpuscles,—which affects more or less the entire thickness of the cornea. This is due to the disposition of the leucocytes to move towards the place of the greatest concentration of the exciting substance, but as they are making their way towards the microbic area, stimulated to movement by the slighter concentration of the poison, they fail to reach it, because whilst still at a distance their movements are paralysed through the intensity of the toxic action and the cells have perished. We thus find an explanation of the central necrosis in cases of septic inoculation of the clear ring which surrounds this area and which is saturated with the poison, and of the opaque purulent area formed by dead leucocytes. The lecture is highly suggestive and reflects great credit on Professor LEBER.

Annotations.

"Ne quid nimis."

VITAL STATISTICS OF LONDON.

IN view of the increasing importance of and interest in the health of London, we publish to-day the first of a series of monthly articles dealing with the vital statistics of the metropolis, with special reference both to sickness and mortality in each of the forty-one sanitary districts of London. The returns of notified cases of infectious disease and the mortality in each of these sanitary areas are published in a table specially compiled for THE LANCET; and in order to render the information more valuable for comparative purposes the sickness and mortality rates in each district have been carefully calculated on populations based upon the recent census. The populations of these areas are now accurately known, and as the mortality figures in the table relate to the deaths of persons actually belonging to the various sanitary districts, the rates based upon them are therefore trustworthy and serve to show the true mortality in the various sanitary areas. The progress of any epidemic can be readily traced, both as regards its prevalence and its fatality, in different parts of London.

A TEACHING UNIVERSITY FOR LONDON.

THE Royal Commission which is now sitting, after having heard a considerable number of witnesses dealing with various secondary points, is now approaching the crux of the whole question. During the next week representatives of University and King's Colleges, of the Royal College of Physicians—the Royal College of Surgeons having already been heard—and of the London medical schools will give evidence. We would remind our readers that whilst the higher education in London is of the gravest importance and every method of improving it merits the fullest investigation, the practical question of how London medical students are to obtain degrees on terms equivalent to those on which such degrees are granted elsewhere must not be left out of consideration. A University which cannot solve this difficulty must obviously fail from want of support by the medical profession. Surely if every capital in Europe except Constantinople and London has a local Teaching University with power to grant degrees to its students, there is no reason why London should not wipe out its reproach. The present University of London is a cosmopolitan examining board, nothing more, nothing

less, and it does its work excellently. It is as far divorced from all connexion with teaching as such an institution can possibly be, and it is therefore easily intelligible why teachers have risen in revolt against it. There are several practical points which must be carefully considered. Three schemes apparently have some support and of these two are old and one is new. The old schemes are those embodied in the proposals of the Senate of the University of London and in the Charter for a Gresham University passed last year by the Privy Council, but defeated in the House of Commons. The desirability of a single University in London is evidently an important consideration in the minds of many who have given evidence or have written articles on this subject. It is clear, however, to us that the existing University, with its traditions, its freedom from local influences and its high standard for degrees, can neither so change itself as to become a local Teaching University nor introduce into its constitution the necessary changes which would allow it to perform such duties. The Gresham Charter had the advantage of being a compact scheme, federalising the two teaching colleges and the ten medical schools whilst it presented no obstacle to their fusion for purposes of scientific teaching and allowed of every facility being given for the appointment of special professors to give instruction in the higher subjects wherein they had made original researches or in which they had attained special eminence. The new scheme is put forward by an "Association for Promoting a Professorial University for London." In this the federal principle is objected to and a centralised scheme is advocated. The leading propositions are thus laid down: "1. The University to be governed by a Senate composed of the professors and of a certain number of laymen to be nominated by the Crown. 2. The professors to be nominated in the first instance by the Crown, but afterwards by special standing boards of experts appointed for that purpose by the Senate. 3. The University to have power to absorb existing institutions of academic rank in London, due provision being made for protecting the interests of the present teachers in such institutions and for preserving the character of special trust funds. 4. The University to have the power of appointing readers and lecturers, either to supplement the teaching of the professors or to deliver graduation or other courses of lectures within the metropolitan area. 5. The degree examinations to be conducted by the professors of the University, acting in conjunction with other examiners to be appointed by the Senate; and no candidate for a degree to be admitted for examination without having attended the lectures of the University teachers for a prescribed period, which shall not be less than two or more than four years." It is further suggested that the medical faculty should be placed on a basis essentially differing from that of the other faculties. The scientific education of the medical student would apparently fall into the hands of a single professor in each subject and his assistants, and it is by no means clear whether sciences such as anatomy, physiology and pathology are to be included or whether the preparatory extra-professional sciences of biology, chemistry and physics are embraced in the scheme. In either case the powers asked for are too large. The number of medical students in London is so great that a centralisation such as is asked for would be deplorable. Three or four competing institutions would be the smallest number even for scientific training that we could recommend for London, and with regard to clinical instruction, provided the amount of clinical material were sufficient, the greater the number of influential and active teachers, the more advantageous would be the result to the student of medicine. There is truly a waste of teaching power in the metropolis, but even this is better than the possibility of a stagnation on the part of the professoriate and an indifference to the daily requirements of the medical student owing to research monopolising the teachers' attention. We fear that a Senate appointed by boards of experts, without regard to teaching institutions and without regard to the ordinary teachers, could only tend to such an unfortunate result. The power of absorbing existing institutions—e.g., medical schools—can only have been asked for by idealists and not by persons who have an adequate knowledge of the various institutions interested in this question. Those engaged in medical and other sides of technical education must at once see the difficulty of agreeing to such a proposal for a city the size of London and will be sure to oppose its adoption by every means that is in their power. It is a worthy ideal, but considering the immense number of institutions which in many ways educate up to a University standard such a centralised scheme can only exist in "cloudland."

CHOLERA PROSPECTS.

IN so far as European cholera is concerned the centre of interest now lies in and around Paris, and the urgency of the question is considerably accentuated by the fact that official records as to the "choleraic"—so-called—prevalence in the suburbs of the French capital suddenly ceased three weeks ago and that their cessation has been synchronous with the highly suspicious circumstance to which our special correspondent drew attention last week and on which in our present issue he again comments strongly. For considerably over a month an epidemic has been going on in the vicinity of Paris which is attacking adults, which has definite characteristics of cholera, which is, so far as can be judged from the statistical information that transpires, as fatal to those attacked as many an epidemic of Asiatic cholera, and concerning which all official announcement has either suddenly ceased or is limited to such statements as the one made by Mons. Laubet, the Prime Minister, to the Chamber of Deputies on the 12th inst., to the effect that all necessary hygienic measures are being taken. So far as news has been forthcoming it is to the following effect. Diarrhœa of a very fatal character prevailed in some of the suburbs of Paris, especially included in the loop of the Seine to the west of the capital towards the end of May and early in June. On June 23rd twenty deaths had just occurred from so-called cholera nostras, Nanterre, Suresnes, Puteaux, and St. Denis being effected. By July 1st the epidemic had since its commencement caused 159 deaths. Then came more detailed news as to the number of deaths in the various suburbs, and in new places attacked such as Aubervilliers, Quatre Chemins, La Corneuve, Courbevoie, Asnières, Clichy, Rueil and Colombes; but it was announced that Paris itself within the fortifications remained free. By July 4th fresh places such as Levallais and Genevilliers were attacked. Next day ten fatal attacks were announced, and Neuilly was added to the list of localities infected. On the 6th and 7th there seems to have been a marked increase in the number of attacks, and besides this it was announced that between July 1st and 6th as many as 37 cases out of a total of 66 had terminated fatally. This in itself is sufficiently alarming for a diarrhœal disease in Europe and in the minds of many it mattered little what qualifying adjective was used to designate this "cholera." Argenteuil and St. Ouen were now also attacked; indeed, the disease was reported to include twenty-four villages. On July 10th it was reported that Paris itself had become involved, although it was difficult to understand to what extent, owing to an apparent confusion between cases and deaths. At Aubervilliers four deaths took place on the 11th inst. This information cannot pretend to accuracy, for owing to the official silence it has had to be gathered from the ordinary public press. Whatever its source, it is evident that the Local Government Board look upon the intelligence, combined with the ominous silence referred to, as justifying the immediate exclusion of rags from France. Some, indeed,

reached Folkestone under such suspicious circumstances that the President of the Board issued a special order prohibiting their being moved inland; and since then a general order prohibiting the importation of all rags from France has been published in the *Gazette*. Evidently the authorities at Whitehall regard the state of affairs around Paris with the gravest suspicion; and everyone must admit that circumstances such as we have detailed are especially serious at the present season of the year. Accounts from eastern Europe are also very disquieting. Cholera continues to extend both in Transcaucasia and in a north-westerly direction from Astrakan and Baku. Perhaps the most serious matter in prospect is the intended fair at Nijni-Novgorod commented on in another column, for cholera has since our last report spread further up the Volga to Simbrisk, and thence to Kazan. Cases are also alleged to have occurred in the province of Kostroma to the north of Nijni-Novgorod. The Local Government Board have also issued an order prohibiting the importation of rags from all ports of the Black Sea and the Sea of Azov, as also from all ports of Turkey in Asia. The order takes effect at once. Pending the further development of the present state of affairs sanitary authorities everywhere will do well to remove all causes tending to pollute air, water and food.

OCTOGENARIAN PREMIERS.

WE can only speak at present in the singular number. So far as our knowledge of English history in this century and the last goes there has only been one octogenarian premier—Lord Palmerston—who died at his post in his eighty-first year. Several of our eminent statesmen in this century—not one in the last—who had in their time been Prime Ministers attained to this longevity. Henry Addington (Lord Sidmouth, son of Dr. Addington) died at eighty-seven, the Duke of Wellington died at eighty-two, Lord Grey at eighty-one, Lord Russell at eighty-six; but long before their decease they betook themselves to that "blest retirement" which the poet tells us is such a "friend to life's decline." We are no politicians, but we cannot be insensible to prodigies of power at fourscore. In this sense we regard with keen interest the recent mental and physical feats of Mr. Gladstone in his Midlothian campaign. He has already "beaten the record," and if he is to be again Prime Minister of England we shall regard the achievement as one of which the English race may be proud. Such a statement involves no medical approval of men even of Mr. Gladstone's strength engaging in political strife at eighty-two. But from a physiological point of view such power and pluck can only excite admiration, and we heartily hope that they may suffer neither harm nor discredit by the experiment.

THE CASE OF MR. WALTERS OF CHELTENHAM.

WE publish in another column resolutions of the Poor-law Medical Officers' Association relative to the suspension of Mr. Charles A. Walters, medical officer of the second district of the Cheltenham Union, an appointment which he had held without complaint or fault for the long period of thirty-eight years. The matter is of still more sad interest, as Mr. Walters died on the 8th inst. The case is a very simple one. Even in its issue there is nothing serious save in its bearing on the unfortunate medical officer. The facts are as follows: A little girl came to Mr. Walters on a Sunday morning, April 3rd, at 11 o'clock with a note from her mother requesting him to see her sister. He asked if she had brought an order from the relieving officer and she said no. Mr. Walters then said "mother must send me an order or come and see me and tell me what is the matter." The relieving officer was so near that he could be communicated with in half an hour. Meantime Mr. Walters suggested that her mother might give the sister a dose of castor oil. In the evening, at nine, a Mrs. Robinson called and demanded Mr. Walters' attendance in his capacity of medical officer *without an order or relief ticket*. She negatived the idea of his attending in any other capacity by stating that she would call in another doctor—a course the mother would seem quite able to have taken, seeing that within the last twelve months, since the death of her husband, she had received over £100 from benefit societies and had, while receiving a weekly grant from the Cheltenham guardians, £30 deposited in the savings bank. On calling next day to see if an order had been obtained Mr. Walters found that the child had been removed with a very mild attack of scarlet fever, from which in a month it had practically recovered. Such is this case. For declining to attend without an order Mr. Walters was suspended by the guardians and "severely censured" by the Local Government Board. We do not remember to have heard of a case where such dire punishment was meted out to a medical officer for doing what was certainly within his right and even his duty. It is undeniable that the mother of this child was able to pay a medical man and that she sent no order to Mr. Walters to attend in his capacity as medical officer. For declining to do so this faithful servant of thirty-eight years' unblemished character is censured and suspended. We cannot admit that the mere suggestion of a dose of castor oil amounted to an "acceptance of responsibility" for the case, on which theory the Local Government Board founds its censure. We look to the Local Government Board to defend medical officers, and we have had pleasure often in recording that the Board has stood by them. But in this case there seems to have been a terrible failure of duty. Instead of censuring the guardians for giving relief to a person receiving £100 in a year, they censure the medical officer for requiring legal proof of her claim to be treated as a pauper. We cannot defend such action in a Government department, and if unexplained and unatoned for we prognosticate injury to the service. Medical officers under the Local Government Board have their rights as well as their duties. We heartily support the action of the Poor-law Medical Officers' Association. Nor do we think they should be left alone to protest against such treatment of a medical officer of thirty-eight years' standing. The Corporations of the profession should join them and claim for Poor-law medical officers the same justice that they would claim for medical officers of the Army or Navy. We commend this very hard case to the consideration of the Presidents of the two Royal Colleges, unless, as we venture to hope, the Local Government Board and the guardians will reconsider their judgments.

SCHOOL CHASTISEMENTS.

SOME grown persons would seem to think that there is no true place for chastisement in a system of education. Such at all events is our impression of those, and there are many parents among them, who regard an ordinary beating given in school as almost an indictable form of assault. People of this kind have evidently forgotten the singularities of their own wayward youth, or perhaps their lives knew only a genial and untroubled springtime of good conduct. In neither case can their judgment be relied upon to form a rule of discipline for the guidance of school teachers. The bad boy will continue to deserve, and to repay with better behaviour his needful thrashings, and even the good boy will sometimes err and will profit by corporal reproofs. The truth about physical punishment, we may take it, is that it is indispensable—an evil perhaps, but a necessary one. It must be borne, but in order to attain success with the least possible amount of injurious friction it must also be regulated. There must be no impulsive pulling about, no random strokes with the hand or the ruler, no ear-boxing with its probable sequela—the ruptured tympanum. The head should never be struck, not even slapped. We may say the same of the

body, but for one most tender but safely padded prominence which appears to mark the naturally appointed seat of childish affliction. We need hardly emphasise the importance of guarding jealously against all displays of temper while inflicting punishment. No doubt this is difficult with refractory children, but such a degree of self-government as will enable parents or teachers to avoid the angry moment is nevertheless requisite for success. A case occurred lately which illustrates this point. It was that of a boy who was beaten about the back and hand the day following a school misdemeanour. Singularly enough, he injured his head next day, and being at the time in poor health, though believed to be well, he died in a week from tubercular meningitis. At once his teacher was blamed; but proof being brought that the chastisement inflicted was deliberate, orderly and proportionate, though the means employed were not quite regular, he was entirely exonerated at a subsequent inquest. It would indeed, in many cases, render the duties of a schoolmaster as barren as difficult if he were not allowed a reasonable freedom in physical correction. The possible occurrence of such incidents as the above must, however, impress what we have said as to method in its application.

"CURES" FOR INEBRIETY.

THE special report of the meeting of the Society for the Study of Inebriety, on the 5th inst., which we published in our last week's issue, shows very clearly how necessary it was that we should give the profession and the public a timely warning against these secret cures. Dr. Keeley was unable to attend the meeting. Dr. Usher of Melbourne gave details of the method in which the so-called cure had been worked at Dwight, U.S.A., of the immense sums spent in advertising the institution and the cost of the preparation used—viz., thirty-six shillings for two bottles. Further, Dr. Norman Kerr laid before the meeting an analysis stating that the preparation contained neither gold nor chlorides, but 6 per cent. of sugar and 27·55 per cent. of pure alcohol. We quite agree with the members present that "so-called 'cures' for inebriety, the composition of which is not disclosed, are unfit to be commended by honourable members of the medical profession." Inebriety is a disease of which the treatment is as well known to the profession as is that of morphinomania or any similar habit, and it is only by legitimate and open treatment that it can be cured. There is no patent remedy for it, nor is there ever likely to be. Unfortunately, the unhappy sufferers and their friends are always asking for a specific and so they readily become the dupes of some ardent and unscientific believers in a method, or, worse still, of those who trade on their weakness.

"ELECTION FEVER."

IT may not be inopportune during the turmoil of the general election to call attention to some of the dangers attending ill-regulated enthusiasm and irrational excitement. This appears to be the more necessary as already several fatalities attributable to these conditions have been reported. In the one case an elector died suddenly on the declaration of the poll, in another suicide is stated to have been the more tragic consequence, and yet another died through the excitement of the election. Danger under these circumstances is naturally both physical and moral and in some instances these causes are doubtless combined. Irregular and injudicious meals and irregular and insufficient rest are ever fruitful causes of that silent sap of energy which at the supreme moment causes it suddenly to fail, and a weak heart may then as suddenly cease to beat, or flicker out in futile palpitation. If to such purely physical dangers be added the still further strain of persistent anxiety, and its frequent consequence, defective sleep, it is not difficult to appreciate the unexpected loss of that calm control of both body and mind which flows from the presence and consciousness of a reserve of force. To indicate these causes is not only to point out their natural effects, but also, to reasonable men, the lessons they convey. To those engaged in the work of the elections personal hygiene of the most careful order is of the first importance. Regularity in the storage of force and care and calmness in its expenditure are the secret of many a victory. "Those who strive in the games are temperate in all things," and the game of a contested election tries both mind and body severely. Nervous constitutions, wrought to a high pitch by the eloquence of party leaders or by the impulses of self-interest, are specially liable to sudden catastrophe, and it would be well for all such to remember, like one of Bulwer Lytton's characters, that the country has survived many unparalleled crises, and will yet survive many more quite as unprecedented. Moreover, to aggravate the causes of agitation by importing further sources of interest and unrest, such as betting on the issues involved and in other ways working up to fever heat the political furor, is very unwise in excitable persons. It is to point out these self-evident considerations which, nevertheless, are too apt to be forgotten at times of public excitement, that we have deemed it our duty to call attention to this matter.

APPARENT DEATH IN CHOLERA.

THE approach of cholera is already bringing much disquietude to the nationalities of Southern Europe, particularly to those who people the Mediterranean shores. The Italian, French and Spanish ports have on each former descent of the scourge suffered severely, all the more that in their conscious neglect of sanitary precaution their authorities invariably lose their heads in presence of the invader and attempt to atone by a few days' feverish energy for the culpable remissness of years. But there are special causes of the uneasiness, not to say positive panic, which the slightest hint of the advance of cholera arouses in those populations. Their custom of allowing but a few hours' interval, sometimes hardly a day, to elapse between decease and burial has on the occasion of increased mortality from epidemics induced certificates of death to be prematurely given, with the horrible result that apparent corpses have come to life on their way to the tomb or the crematorium, and with the necessary inference that not a few must have been buried or cremated when the vital spark, so far from being extinct, might still have been kept alive. The great Tuscan pathologist Pacini some thirty years ago published a memorable pamphlet on "La Morte Apparente della Colèra" and having instanced a number of cases in which the seeming corpse had been snatched from the very brink of the grave he proceeded to gives rules by which even in collapse the apparent victim to cholera might be resuscitated. Among his prescriptions that of the intravenous injection of bay salt, as suggested and practised in 1832 by Dr. James Macintosh of Edinburgh, held a prominent place and by this means, particularly in the cholera visitations of 1877 and 1884, the restoration to life of many duly certified as dead was just in the nick of time effected. In the latter year, however, a remarkable and extremely painful instance of the all too tardy resort to the practice occurred in the person of a distinguished Genoese physician who, having overworked himself in the public cause during the epidemic, was himself struck down just when it was in full retreat. Every care was bestowed upon him, but he rapidly sank into collapse and within forty-eight hours he was thought to be, and certified as, dead. Burial arrangements were in progress and the family, sitting disconsolate in a room adjoining that in which he was laid in his shroud for burial, were expecting the arrival of the undertaker every moment, when, to their mingled horror and delight, the door was feebly opened and the apparent corpse presented himself and, in a voice scarcely audible from

weakness, remonstrated with them for having left him so long unattended. Instantly they conveyed him back to bed and employed, under the best professional advice available, every means that could be imagined for his rescue; but in vain. He died a few hours afterwards of cardiac failure. The case was much commented on at the time as a typical example of what might occur on the strength of death certificates prematurely given, and so Pacini's method was reapplied with enhanced vigilance on every cholera patient who had reached the stage of collapse. The epidemic ran its course; the panic and the vigilance born of it disappeared, till now, when cholera is again within measurable distance of the Mediterranean seaboard, Pacini's name and practice are once more trotted out. The Southern populations, however, must surely have learned by this time that prevention is a better safeguard than cure, be it as ingenious as it may, and that to leave their ports in a mediæval state of filth and neglect invites those cholera explosions that never occur on so sudden or so vast a scale in the more civilised harbour towns of the British Isles or of the Dutch and Danish coasts. With the experience of Naples and Spezzia still recent, sanitary rehabilitation must have made some way towards the protection of regions to which quarantine and "hygienic cordons" have ceased to give the security so long laid to their credit.

LONDON DUST AND REFUSE.

LONDON residents will be dismayed if they find they are required to burn the vegetable and other refuse which collects in their houses and if the dust collector receives instructions not to remove anything but dirt and ashes. The readers of the columns of the *Daily Telegraph* will find in it letters from "distressed" and "aggrieved" Londoners complaining that such is the case; the former states that his cook had informed him that the dustman would no longer remove any vegetable stuff; living in a flat, he had found it difficult, if not impossible, to burn it; the latter writes that the vestry's dustman had declined to take any vegetable refuse, paper or garden rubbish; that to burn this in the house would be prejudicial to the household, and that to burn it in the garden would create offence to the neighbours. We cannot but think that there must be some misunderstanding; it is reasonable for sanitary authorities to require householders to burn such matter as is practicable, but it is equally certain that local authorities must be prepared to relieve householders of their waste refuse. We do not suppose that sanitary authorities will be unreasonable in this respect. What is wanted at the present time is that a system of periodical removal of house refuse should be instituted in all parts of London and that houses should be provided with the proper receptacles for its storage for the short period which must intervene between successive collections.

THE EPSOM COLLEGE REPORT.

THE report issued for the present year by the Council of Epsom College makes out not only a strong case for generous support by the profession and the public of this most deserving institution, but also a record of advance made in the direction of securing public recognition which should encourage the friends of the school to take a very hopeful view of their prospect of shortly surmounting the difficulties by which they have been, by which indeed they still are beset. In the meantime these difficulties are very serious and it cannot be doubted that the highly creditable result which the Council are able to report has been reached only by dint of very determined and wholly unremitting labour on the part of those who are entrusted with the work of carrying on the school. During the past year it has held its own in comparison with kindred institutions and shows a very gratifying list of academic successes. The amount of good which by its charitable and its educational work Epsom College accomplishes and the value of the service which in both respects it renders to the medical profession cannot well be overstated. Unfortunately it is only too easy to under-estimate them, and the neglect of which for many years the active supporters of the school have had too much reason to complain affords abundant proof of this proposition. We trust that this period of neglect has now passed away and that the newly awakened interest, which so largely contributed to the success of the biennial festival, is the herald of a happier time in the annals of the College. This quickened interest is amply justified by the success which has already been achieved under distinctly depressing conditions of work by an executive whose devotion to their undertaking is just beginning to be recognised. We trust that the time is not far distant when this institution will be regarded with fitting solicitude and pride by all the members of our profession. It will then flourish on a scale at present rendered impossible by the narrowness of its means, and we do not hesitate to predict that the skill and zeal which have rendered it at the present moment worthy to represent a great profession in its own department will under these more fortunate conditions place it in a position to receive by common consent the rank among public schools to which its connexion with the profession of medicine gives it a presumptive claim. Founder's Day will be held on Monday, July 25th, when the annual distribution of prizes will take place.

IMPROVEMENT SCHEMES IN LONDON.

THE London County Council, at their meeting last Tuesday, resolved to contribute one-half of the cost of a scheme for the improvement of an unhealthy area in Shoreditch and themselves to carry out an improvement scheme in Mill-lane, Deptford, to which the sanitary authority will contribute one-half the cost. The Mill-lane area comprises fifty houses, in addition to which are eight registered lodging-houses and other premises. It is proposed to erect improved lodging-houses in place of those which are to be demolished. This area is now occupied by very poor Italians, who sell ice-creams in the summer and in the winter perambulate the metropolis with barrel-organs. The outbreak of enteric fever in Deptford and Greenwich last autumn was found on inquiry by the Council to be caused by the distribution of ice-creams from this locality. The estimated cost of the improvement is £39,500.

THE REPRESSION OF INFANTICIDE.

A RECENT meeting of the Society for the Prevention of Cruelty to Children is worth recording, if only for the practical discussion of the question of child life insurance, which occupied a prominent place in its agenda. It was generally agreed that the proposals contained in the Government Bill on Friendly Societies were quite inadequate to deal with this matter. As a measure it was distinguished as much by its friendliness towards insurance companies and insuring parents as by its comparative inattention to the weal or woe of the helpless children. The following suggested amendments ought to be borne in mind by any and all who have at heart the best interests of the latter. First, as regards registration, it was proposed that steps should be taken to secure the efficient notification of every case in which a burial policy was taken out in respect of a child, that death (if it occurred) should be officially noted, that agents should be registered, that the sum insured should be no more than sufficient for burial (about £1), and finally, that this should be granted only on receipt of satisfactory proof respecting the actual nature of the child's last illness. The very necessity for burial insurance shows a want of adapta-

tion in domestic money matters. It were certainly preferable if by the independent exercise of homely thrift any such necessity could be done away with. Where this is impossible and the alternative method is employed it must in mere justice to the life involved be guarded by the rules above-mentioned. We would therefore ask for these the careful attention of the new Parliament. A further suggestion was brought forward at this meeting—namely, that persons having charge of even single nurse children should be subject to efficient supervision. We have long advocated such an arrangement. It aims at the root of the baby-farming evil and it must, if carried into effect, exercise a wholesome influence in its repression.

POISONOUS ICE CREAM.

SINCE Dr. Vaughan reported ice creams as containing most deadly irritant poison medical officers of health have been quick to detect any poisonous agent in this substance. Dr. George Turner, acting for the Public Health and Housing Committee of the County Council, has been able to demonstrate that in certain parts of Mill-lane, Deptford, the ice cream made by Italians is prepared under conditions which he deems to be favourable for its contamination. We are glad to see that the committee, instead of deferring the matter by appealing for special legislation, have expressed the opinion that the proper remedy for the condition indicated is the efficient application of the general provisions of the Public Health Act to places in which food is prepared for sale and not the acquisition of further powers dealing with articles designed for consumption. If these powers are not sufficient an enactment must be obtained, but if Dr. Turner's report is carefully studied and the points to which he draws attention are mastered by the authorities, they will find that they have full powers to act where ice creams are being manufactured in premises in which people are living under unwholesome conditions. The general powers under the Act are very far reaching, and if properly put in force should cover all irregularities and provide for bad hygienic conditions in all places where articles for human consumption are prepared or manufactured. Typhoid fever is at present too rife to permit of any factors, however doubtful, involved in its spread being ignored.

HONOURS TO A PHARMACOLOGIST.

ON March 29th, 1792, was born, at San Miniato, in Tuscany, Gioacchino Taddei, who rose to be one of the lights of the Florentine school, in which for many years he held the chair of Pharmacology. In the Arcispedale di Santa Maria Nuova he taught the practice of his subject to successive generations of students and contributed by precept and example to raise that branch of the procession to an efficiency unsurpassed in any other province of Italy. He sat as one of the Tuscan group in the Italian Chamber of Deputies, where his services as a wise and liberal legislator, particularly in all questions relating to the public health and to the higher education, professional and lay, procured his subsequent promotion to a seat in the Senate. Taking these facts into consideration, the "Associazione Chimico-Farmaceutica Fiorentina," in coöperation with the Communal Council of Florence, will at an early date cause to be unveiled on the façade of Professor Taddei's house a memorial tablet setting forth his signal contributions to science, to public health, and to his country's unity and independence. The bestowal of such honours is a frequent and commendable practice in Italy. No doubt it is sometimes abused. Monuments and memorial tablets have from time to time been erected not so much to honour the "illustrious obscure" as to gratify the self-advertising ambition of organising committees and their presidents, whose activity, culminating in the ceremonial proceedings and the inevitable banquet, with its opportunities of speech-making, fructifies in little else than a confirmation of the impression that "Italians are a carnival people." But there can be no doubt as to the propriety of unveiling a tablet to Gioacchino Taddei. His scientific eminence would of itself justify the step, even if he had not been an exemplary citizen and an intrepid patriot in days like those of 1849, when espousal of the national cause meant social ostracism, confiscation of means, exile and not seldom death itself.

THE MEDICAL OFFICER OF HEALTH, NEWTOWN, MONTGOMERYSHIRE.

OUR attention has been directed to the decision of the Newtown Local Board to elect a medical officer of health in place of the gentleman who has recently held that office. We have received evidence of the esteem in which Mr. Palmer is held by those who have had the opportunity of forming an opinion of his work. The appointment he holds is an annual one, and it is open to anyone who may take exception to the action of this officer to seize the occasion of his re-election and to endeavour to introduce another medical man into the office. The circumstances under which the Newtown Local Board have been led to adopt this course deserve the investigation not only of the profession but of the public, for the public cannot be well served if medical officers of health feel they cannot be re-elected if they show the least independence either in the performance of their duties or in the ordinary conduct of life. In the present case it was decided to advertise the office only upon the casting vote of the chairman.

CHOLERAIC DISEASE IN FRANCE.

IT is interesting to learn that Dr. Dujardin-Beaumetz speaks of the malady that is now alarming Parisians as a form of cholera fostered by bad drinking water and the insanitary conditions that prevail in the environs. Although unwilling to call the disease cholera, he describes it as of Asiatic origin, arriving in France from Persia by the Caspian Sea, making its first appearance at Nanterre at the end of March and subsequently spreading to Asnières, Neuilly, St. Denis, Aubervilliers and Clichy. Later accounts speak of this malady as occurring also at Suresnes, Courbevoie and Colombes. What is obviously greatly needed is an inquiry into the whole circumstances of the disease, such as the Local Government Board makes in England whenever the prevalence of any malady demands investigation. The suburbs of Paris are, it is said, unable to provide themselves with satisfactory water-supplies and hence water from the Seine and Marne are utilised to make up for the deficiency of other supplies. The inhabitants of these localities have a right to know whether the water is to blame. Cholera in Paris may lead to the introduction of the disease into England, though with us there is less cause for alarm. Still, all English water-supplies are not above suspicion, and there is no community so perfect from a health point of view as not to require the earnest attention of the sanitary authority.

THE POLLUTION OF THE MERSEY AND THE IRWELL.

AT a meeting of the Mersey and Irwell Watershed Joint Committee, which was held last week, the chairman (Mr. J. T. Hibbert), after congratulating Mr. Hulton, the clerk, on the success which had attended the passage of the Bill through Parliament, commented on the action of a representative of the Local Government Board when the Bill was brought before a committee of the House of Commons and stated that, while he thought some of the control by this Board was useful, he did not think that an important joint committee like that dealing with the whole watershed should be treated as children. He further regretted that any au-

thority in the watershed and represented on the watershed board should have opposed the Bill. He then stated that twenty-nine authorities had sewage works in operation, but that they varied in effectiveness. Some required alteration. In twenty-three places there were no schemes in operation and on twenty of these twenty-three authorities notices had been served. The two months' notice had now expired and he thought it desirable that further action should be taken against them at the next meeting. The figures he had submitted dealt only with urban authorities—the rural had in nearly every case taken some action. Mr. Armitage gave notice that at the next meeting he would move that action be taken against those authorities which had not adopted any scheme.

ELECTRICITY ASTRAY.

AN accident to an electric lighting main in Walbrook, E.C., appears to have recently occasioned some merriment to the dwellers in those parts. We cordially congratulate them on having escaped any more serious consequences than those which provoked their mirth. It seems that through some unexplained failure of the insulator of an electric-lighting main a metal shop front became charged with wandering electricity and passers-by discovered that by touching it with their hands they could experience the delightful inconvenience of an electric shock. The circumstance that this luxury is in the minds of most people, and particularly of most street urchins, associated with festival occasions and penny fees no doubt invested the unpriced supply in Walbrook with an added charm. Happily, the amount of current obtainable seems to have been inconsiderably small; but seeing that a metal shop front in connexion with an electric-lighting main might easily become a greater source of peril to unwary passers-by than an uncaged tiger, the story of this mishap is calculated to give the reader of a serious turn more food for reflection than is altogether pleasant. Fortunately, it is not possible that such an accident should happen without serious fault on somebody's part, and although the London public seem to have taken the matter with a light heart, we hope that those whom it most nearly concerns will make a point of exacting the full penalty for a flagrant default, be it whose it may—*pour encourager les autres*.

THE CHOLERA IN KASHMIR.

SOME further particulars of the cholera in Kashmir are to hand in the form of a letter from Mr. A. Neve, the senior medical missionary, who when the epidemic commenced was working single-handed, as his brother, Dr. Ernest Neve, had gone with a party of Moravian missionaries to Ladak. He had, however, a valuable native helper. As soon as the epidemic became at all pronounced the British resident and all the European visitors took flight to Gulmarg, a hill sanatorium some thirty miles from Srinagar. Mr. Neve and his assistant carried out as systematic a visitation in the city as was possible, but little could be done either in the way of sanitation or of medication, as the cases were rarely seen during the first few hours, when drugs are really valuable. The hospital was as far as possible cleared out, the patients being sent away to their villages lest in their weak state they should contract the disease. "I get up very early," continues Mr. Neve, "and ride to the bazaar. The head man of each district then comes and escorts me to the new patients in the neighbourhood. Many of the houses are two- or three-storeyed and one has to climb up and down the most tortuous stairs, usually very steep and the ceilings very low, so that my thick sola topi has been almost smashed to pieces. The people all crowd round the unfortunate patient. A well-known man will have twenty or thirty neighbours sitting round him and the women do not reserve their wails for the dead, but beat their breasts and tear their hair and scream 'Hai, hai, wai, wai' if anyone is badly attacked. ..... For a time there seems to be no 'purdah' and no class is specially inaccessible. In fact the well-to-do Hindus seem quite as willing to receive me as any others. In many cases one can do little; in others one can turn the scale. But although a few lives here and there have been saved I think the moral effect of our work is more important. The people well know the apathetic selfishness of their co-religionists and they see the missionaries and ladies as well as others going about trying to relieve suffering." Mr. Neve's assistant succumbed to the disease, though after transfusion he rallied for a short time. The Indian Government have deputed Surgeon-Colonel Harvey to make a searching inquiry into the epidemic and he has taken up his quarters in the mission house with Dr. Ernest Neve, who has returned, Mr. Arthur Neve going out into the villages where the cholera, after having abated in the city, was becoming rife.

ENTERIC FEVER AT NORTHALLERTON.

ENTERIC FEVER still prevails at Northallerton, but, as we anticipated, the Local Government Board do not see any reason for sending a medical inspector to investigate its causes, those causes being known in advance to the local authority. Mr. Lumley again tells the local board that the further incidence of the disease goes to confirm his view that it is due to polluted water. Unfortunately the account of the proceedings of the local board does not contain any statement as to what is being done; indeed, the only action recorded is a proposal that the board should form itself into a committee to further consider the outbreak and the means which should be adopted to stop the spread of the disease. It is, however, to be hoped that all suspicious water-supplies have been stopped and that a wholesome supply is being delivered day by day, by water-cart or otherwise, at all houses where the local supply is liable to contamination.

A PRESIDENTIAL ADDRESS.

THERE lies before us a copy of an important and highly interesting document which should be available for every member of the profession, for it deals with topics of more than local interest. It is the address of the President of the Royal College of Physicians delivered to the assembled Fellows on the occasion of the close of his year of office. We are unfortunately restrained from discussing its contents and especially its exhaustive treatment of the movement for a new or reformed University in London by the superscription on the title-page "private and confidential." Is this also one of the "secreta Collegii"? Surely it cannot be so intended. Incidentally we may remark that the "secreta" have of recent years been unusually numerous, and we cannot help speculating whether the bond of union that has obtained between this College and the sister institution in Lincoln's-inn-fields may have had a tendency to deprive the proceedings of the College of Physicians of a publicity which in these days ought to be the rule and not the exception. Apart from the general question, however, it does seem foolish and unworthy of the College to require its President to restrict the circulation o his address to a small circle, and whilst we are dealing with this specific instance we may perhaps express a natural regret that the previous addresses of the present occupant of the presidential chair and those of his much-revered predecessor have never been published. They are of permanent value and should not be suffered to lie neglected in the College vaults. For without doubt they contain words of wisdom and the teachings of ripe experience which might exert the best possible influence upon the profession, not only in the present day but in years to come. The London College of Physicians occupies such an eminent position among the medical institutions of the empire that it is its bounden duty to lose no

opportunity of inculcating the principles it represents and the ethical standard it maintains. It could not better promote these aims than by publishing the annual addresses of the leaders of the profession whom it places at the head of its affairs.

SMALL-POX IN YORKSHIRE.

SMALL-POX still hangs about some of the Yorkshire towns and villages. During the month of June Liversedge and the Doncaster rural district and some localities in the neighbourhood of Halifax were somewhat seriously affected. Mexborough is still suffering from the disease.

THE SCARLET FEVER EPIDEMIC IN LONDON.

A STATEMENT made at the last meeting of the managers of the Metropolitan Asylums Board is entirely in the direction of the caution which we uttered in our leading article of last week as to the extent to which scarlet fever is prevailing in the metropolis. The chairman explained that the incidence of the 2247 cases under isolation in the Managers' hospitals amounted only to one case per 2000 of the 4,250,000 people in London. And even if we assume the total number of patients to be double that in hospital, the rate of attacks would only be 1 per 1000. The death-rate, as we intimated, is by no means alarming at the present moment.

THE MEDICAL MAGAZINE.

A NEW literary adventure in the medical world deserves a hearty welcome, when, as in the case of the monthly journal appearing under the above name, it is issued with the laudable desire to restrict the growing tendency on the part of lay periodicals to insert contributions on medical subjects in their pages. This magazine, which is produced in commendable style, has doubtless a mission to fulfil, and the contents of the first number are varied as well as interesting. There is a faithful and just tribute to the work and character of the late Dr. H. G. Sutton, one of the most remarkable physicians of our day from the pen of Dr. Donkin; an interesting sketch of the health conditions of Chester from mediæval times to the last century by Dr. Creighton; and some strong advocacy of the value of periodical medical literature in advancing medicine by Dr. Saundby. Dr. Maudsley writes on Suicide in Simple Melancholy, in which he conveys the impression that suicide is not out of the natural order of things, as we are disposed to regard it. Mr. G. H. De'Ath, the medical officer of health for Buckingham, does good service by drawing specific attention to facts of rural sanitation (or rather insanitation) which have come to his notice. Dr. Francis Warner contributes a brief paper on Mental Physiology; and there is an anonymous (presumably editorial) article on the Medical Profession and Practical Politics—an appeal to members of the profession, especially those retired from active practice, to share in political and municipal affairs.

CHOLERA AND CROWDS.

THE Russians are evidently greatly disquieted by the fear of the threatened epidemic of cholera and are taking the most active measures to prevent the spread of that disease along the lines of railroad. Cholera is advancing up the Volga. Of that there can be no doubt apparently, and it becomes a serious question as to what steps have been taken in regard to the approaching fair which, we are told, is to be held at Nijni Novgorod. The latest accounts would indicate that the official authorities in Russia have been very active in this direction of late, but whether the sanitary arrangements are of an adequate kind and commensurate with the occasion we do not know. The authorities in India have had great experience of what occasionally happens at Hurdwar and other large religious gatherings and of the arrangements that have to be made to prevent an outbreak of cholera or limit its spread. A great deal of forethought and labour are expended in the way of organisation and preparation on such occasions, and arrangements are also made for the sudden breaking up of the religious fairs and dispersal of the pilgrims in case of need. When any epidemic is actually present or impending there must obviously be great risk attending the assemblage of a large concourse of people. Even if some of them did not bring the disease with them, the heat, fatigue, overcrowding, defective sanitary arrangements and difficulties connected with water-supply, are all adverse factors that have to be encountered. A commercial fair like that at Nijni Novgorod is, of course, on quite a miniature scale compared with one of the vast Hindu religious gatherings in India, but all such assemblages require great preparatory care in the way of sanitary organisation and arrangements. The truth is there is no short and ready way, no royal road to the prevention of the spread of cholera in a country by quarantine and cordons. The scale on which the attempt has to be made is altogether too large and the difficulties too great for it to be practicable to apply such methods. Sanitation on a large scale, a pure and good water-supply, efficient sewerage, cleanliness and wholesome dwellings are the only reliable safeguards against cholera. There is the seed and the muck-heap to be dealt with, and if the former cannot be destroyed the muck-heap necessary for its growth and development can be removed. An increased knowledge and experience have only confirmed the truth and given precision to the late Lord Palmerston's sagacious remarks on the subject.

RIGOR MORTIS IN ITS RELATION TO DEATH FROM POISON.

THE *Wiener Medicinische Presse* publishes a paper read by Professor A. Paltauf before the Association of German physicians at Prague on some experiments he had made to show the causal connexion between rigor mortis and deaths from poison. For the purpose of these experiments such poisons were used as were known to exert a certain influence on the muscular system, either by directly acting on the muscular substance or indirectly by affecting the nervous system. Amongst the poisons belonging to the first series curare always considerably delays the occurrence of rigor mortis. Amongst those acting on the central nervous system, strychnine, picrotoxine, camphor, and the salts of ammonium accelerate the occurrence of rigor mortis. This acceleration is still more increased by artificially prolonging the stimulation of the muscular system, but is again arrested on the occurrence of paralysis. Veratrine and physostigmine cause only a slight acceleration of the rigor mortis, but with caffeine and its chemical derivatives—the rhodan salts—this acceleration becomes considerable. To study the influence of the nervous system at the time of occurrence of the rigor mortis, Professor Paltauf divided the nerves and the spinal cord, with the result that the more a muscle had been stimulated by the poison the sooner was the rigor mortis observed, independently of its connexion with the spine, if such connexion existed. The reaction of the rigid muscles was in the case of many poisons, as has been generally believed, acid. Other poisons, however (such as camphor, ethyl-theobromine and the rhodan salts), gave, contrary to the general assumption, an alkaline reaction. This alkaline reaction affected, however, only the anterior portion of an animal in which after the poisoning the cord had been divided. The posterior part of the animal, in which the rigor mortis was delayed, showed the usual acid reaction until the alkaline reaction of putrescence took place. Where the reaction of the anterior portion of the animal was

alkaline it often became, after the reduction of the rigidity had passed off, neutral or slightly acid before putrescence once more made it alkaline. Division of a single nerve had the same result, and it was possible to cause either alkaline or acid reaction in the various muscles of one extremity by leaving the nerve entire or dividing it. Professor Paltauf also approached the solution of the question of the existence of a cataleptic rigor mortis. He found that the convulsive muscular contractions of an animal poisoned by camphor and suddenly killed by strangling led to immediate rigor mortis, and he therefore believes in a cataleptic rigor mortis.

THE COST OF HEALTH OFFICERS AT LEWES.

MR. J. G. BRADEN has resigned the post of medical officer of health for Lewes after a service which has extended over many years and which has been courteously acknowledged by the Town Council. Not only has that service been efficient, but it involved a period of great anxiety and responsibility when Lewes suffered in 1874 from its now historic epidemic of enteric fever due to insuction into water-pipes of infective matters during intermissions in the service. A committee of the council have recommended a new appointment at £100, but the subject has been referred back to them because some members of the corporation think £80 sufficient, and they quote other places which are comparable with Lewes in point of area and population in support of their contention. In one respect the comparison is inapplicable, for at Lewes it is to be part of the duty of the health officer to attend such patients at the isolation hospital as are not under the care of their own medical advisers. Even a few such cases will involve a large number of visits extending in each case over many weeks, and if the corporation were to set this service down at £20 a year it would probably be the least that could be offered for it. This would as a matter of fact place Lewes on a level with those towns where the medical officer of health receives £80 a year. There is another reason for dividing the total salary in this way. No repayment from the county funds is likely to be secured for the hospital attendance, for it is no part of the official duty of a health officer to attend patients anywhere. The repayment is certainly to be limited to the £80, which is regarded by some as sufficing for the services of the health officer as such.

MULTIPLE NEURITIS.

AT the meeting of the Congress of Neurologists held at Baden-Baden a few weeks ago Dr. W. H. Gilbert read a paper on two cases of polyneuritis which presented some striking features. The first was that of a high Government official, aged fifty-six, a member of a "very nervous family," and himself of irritable and hasty temper. In February, 1891, he had an illness thought to be peliosis rheumatica, in which he suffered great pain, followed by cutaneous anæsthesia and muscular paralysis of the extremities. He improved somewhat under electrical treatment and massage, but when first seen by Dr. Gilbert he was emaciated to an extreme degree. There was, in fact, general muscular atrophy, abolition of the plantar and patellar reflexes, whilst the nerve-trunks, which could be felt through the attenuated lower limbs, were the seat of painful nodular swellings. There was some loss of control over the bladder and rectum. Under treatment he improved slightly, so that he could walk better and gained a little in weight. An attack of diarrhœa, brought on by exposure to cold, rapidly reduced his strength and he died on July 9th. The other case related by Dr. Gilbert was that of a lady, thirty-two years of age, who, on Feb. 2nd, 1892, swallowed a large quantity of "Schweinfurt green" with suicidal intent. Prompt recourse to the stomach-pump and other measures averted a fatal issue, but then ensued great prostration and severe gastro-enteritis lasting four days. Next followed symptoms of paralysis of the limbs with severe paroxysmal pains, especially in the right limbs, numbness of the fingers, sensation of cold, profuse sweating and insomnia. In this condition the patient came under Dr. Gilbert's care on April 3rd, when she could only move slowly and with great difficulty, and complained of stiffness in the legs and great weakness. The plantar and patellar reflexes were exaggerated and there was foot-clonus on the right side, but only moderate anæsthesia. This patient, who presented in a striking degree the effects of arsenical neuritis, entirely recovered. Dr. Gilbert remarked that in each of these cases the motor functions were more involved than the sensory.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

The deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Anders Georg Drachmann, father of the poet, Holger Drachmann. He made a great study of hygienic gymnastics and orthopædics and of the hygiene of childhood. He practised medicine in Denmark till within a short time of his death. He was eighty-two years of age.—Professor Hermann Nasse, of Marburg, at the age of eighty-nine. In his earlier years he was assistant to the Professor of Surgery in Bonn, and from thence was invited to Marburg as Professor of Physiology, Pathology, and Veterinary Pathology. The two latter subjects he gave up after a few years, devoting himself entirely to physiology, and in 1879 he transferred the charge of the physiological laboratory to Professor Kuelz.

THE British Institute of Public Health have issued regulations for the conduct of their examinations for sanitary inspectors. There will be two examinations, the first preliminary, the second technical, held twice in each year, in April and October. It has been arranged that the first annual meeting of this institute shall be held in Dublin on Aug. 17th, 18th and 19th.

THE German Consul has officially informed Mr. Gerald Portal, the British Consul-General, that the German Government recognises the right of Great Britain as the protecting Power to regulate the sale of liquors in Zanzibar and has ordered German subjects to submit to the licensing system established.

WE learn from inquiries made at the Pasteur Institute in Paris that M. Pasteur suffered a fortnight ago from slight diarrhœa and colic. He is now, however, we are glad to state, well and able to resume his customary daily walks in the Park of Villeneuve.

AT the quarterly meeting of the directors of the Naval Medical Supplemental Fund held on the 12th inst., T. Russel Pickthorn, Esq., Inspector-General, in the chair, the sum of £70 was distributed among the several applicants.

DR. ALFRED HILL has accepted the presidency of the Birmingham branch of the Association of Medical Officers of Health. Dr. Hill was the founder of the Association, and its first president, sixteen years ago.

DR. GEORGE GORE, F.R.S., has been awarded a Civil List pension of £150 in consideration of his services to chemical and physical science.

OUR Paris correspondent telegraphs that no death from cholera had occurred in that city on Tuesday or on Wednesday.

REPORT OF
The Lancet Sanitary Commission
ON THE
DRAINAGE OF SURBITON.

THE SANITARY AUTHORITY.

THE sanitation of Surbiton is under the control of the Improvement Commissioners, by whom are appointed a medical officer of health (Dr. Coleman) and a borough surveyor and inspector of nuisances.

THE MAIN DRAINAGE.

Most of the sewers consist of earthenware pipes which have been laid down during the last ten years; but we are informed that two or three of the old brick sewers still remain in use. The storm waters are carried by separate channels. Up to a recent date the sewers were ventilated by openings at the level of the road, but owing to complaints of nuisances arising from these ventilators several shafts have been carried from the sewers up the sides of the houses and many of the old road ventilators have been closed, with the result of abating the nuisance. The sewage of the town is carried to Kingston and is there subjected to precipitation by means of the A B C process, the effluent being subsequently run into the Thames. The Surbiton Improvement Commissioners pay the Kingston authorities for the disposal of their sewage according to the quantity treated, and we were told that in consequence of this arrangement only a certain amount of sewage is allowed to escape at the outfall, the rest being backed up in the Surbiton sewers during the night. It is said that as a consequence of this the air of Surbiton is frequently offensive in the morning. During our visits to Surbiton we could not detect any smell from the sewer ventilators in the road.

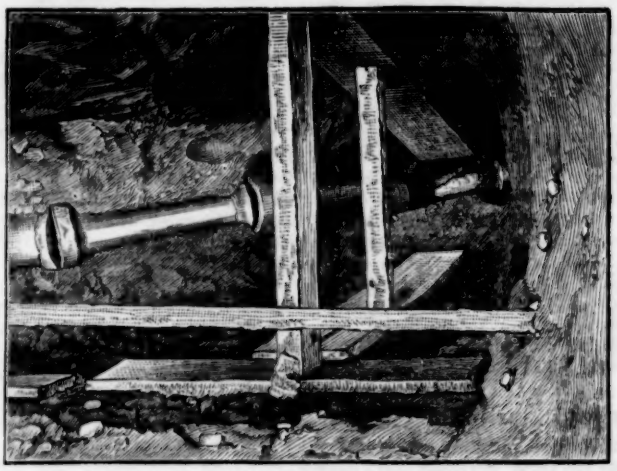
HOUSE DRAINAGE.

The code of sanitary by-laws at present in force in Surbiton came into use in 1880 and we shall best be able to describe the drainage of the houses by dividing them into classes, according as they were built prior or subsequent to the passing of these laws.

1. *Houses built in compliance with the by-laws of 1880.*—The drainage of these houses has been laid down according to the most modern plans, the house drains being outside upon concrete and provided with inspection chambers at the front and back of the drain. The sink, bath and rain-water pipes are all disconnected and cistern overflow pipes discharge outside. We had an opportunity of inspecting some of these houses and are satisfied that these points were all carefully attended to.

2. *Insanitary houses erected since 1880.*—Of these houses several have been brought to light recently. According to the statement of one inhabitant the house drain was not only not laid on concrete, but the individual pipes were uncemented, so that sewage was leaking through at every joint. The rain-water pipe was also untrapped and opened directly into the drain. In this house a case of diphtheria occurred and was the cause of the drain being examined. Another house was found to be in a condition somewhat similar. A case of acute dysenteric diarrhœa having occurred, the medical attendant suggested an examination of the drains, with the result that the house drain was discovered passing over a cesspool, the joints uncemented and leaking, and the sink wastepipe connected directly with the drain. The accompanying engraving is from a photograph of the drain of a house in which "much sickness occurred" and from which the family were ordered away by the medical man in attendance. It will be noted that the joints of this drain are open. We were also informed that a gentleman had offered to take a house in the neighbourhood on condition of the drains being satisfactory. On the drain being laid bare and tested with smoke and water the joints were found to be so defective that the inspector reported that the drain would require to be relaid. The other sanitary arrangements of the house were also condemned. This house had been built within the last two years. It was also stated that there are houses in Surbiton which have not been properly joined to the new sewers; but of this class we could not obtain an example based on sufficiently reliable evidence for the purpose of this report.

3. *Houses built before the passing of the by-laws of 1880.*—Examples of defects in the sanitary arrangements of houses



of this class are naturally numerous. We personally inspected some of these houses and found them drained according to the old plan—soil-pipe inside and unventilated, pan closets, waste pipes not disconnected, and rain-water-pipes going straight into the drain. We found one of the worst examples of these houses to be in the following condition: A four-inch soil-pipe had fixed on to it a one inch and a half ventilating pipe; a single cistern supplied the closets and drinking water by a *single* pipe which divided into three branches; the closets were of the pan type, and the D trap of one of them projected for about four inches into the roof of the pantry. The sink waste was not disconnected, and the cistern overflow did not discharge externally. We have also been furnished with written reports of sanitary defects which have been detected in houses of this class during the past three or four months. These include soil-pipes inside the house, soil-pipes ventilated with one-inch pipe, unventilated soil-pipes, ventilating pipes made of zinc, drains passing under the house with leaking joints, cisterns outside the house and uncovered, rain-water-tank under the floor, with overflow into drain and no trap intervening, pan and container w.c. fixed direct to the drain with no trap, and waste-pipe from lavatory discharging into drain under w.c.

GENERAL REMARKS.

It must be admitted that the drainage of Surbiton, compared with that of other places, is fairly good; but it is evident from the instances adduced above that it is far from perfect.

The sanitary laws in force in Surbiton are excellent, and were they rigidly enforced during the erection of new houses would secure to the town an admirable system of drainage. We were informed that the duties of borough surveyor and inspector of nuisances are discharged by one official. There has been much dispute between one inhabitant and the Improvement Commissioners as to how his house came to be in the state in which it was found; and the solution of the difficulty has been by no means satisfactory.[1] As regards the houses built before 1880, their sanitary defects must be remedied either by tenant or landlord; or failing these, by an appeal to the sanitary authority on a nuisance arising from them. On turning to the report of the medical officer of health (Dr. Coleman) for 1891 we see that the total death-rate is returned as 13·5 per 1000, the death-rate from zymotic disease being 1·1 per 1000. Of infectious diseases 35 were notified during the year. Of these 10 were erysipelas, 1 enteric fever, 3 scarlet fever and 21 diphtheria. In 1890 there were 36 cases of diphtheria notified. Dr. Coleman says: "Correctly speaking, there has been no outbreak of diphtheria, for the succession of cases, spread over the whole year, are not to be so called and there is no reason for suspecting water, milk, or any article of food. Equally impossible is it to account for all of them by any theory of personal infection or of local or general sanitary defects." The steady persistence of diphtheria during two years in an otherwise healthy suburb and its great preponderance over the other infectious diseases is certainly a matter for inquiry. The medical officer of health is inclined to attribute it mainly to the large amount of damp prevailing during these two years.

THE CHOLERA IN PARIS.

(FROM OUR SPECIAL CORRESPONDENT.)

A FORTNIGHT ago, under a pledge of absolute secrecy, I was informed that all the talk about cholera nostras and choleraic diarrhœa was concocted merely to avoid panic. It was necessary to account for the sudden deaths which were occurring in such a manner as to avoid alarming the public and none of the authorities dared to confess that cholera prevailed in and about Paris. Then I was told that careful bacteriological researches had been made. The comma bacillus had been found in the dejections of the patients. At first some doubts existed as to whether this was the real germ of Asiatic cholera. It was maintained that similar germs had been found in previous years and yet no cholera epidemic, as we generally understand the term, had occurred. Also it was found that, unlike the germ of Asiatic cholera, the comma bacillus had failed to give the usual reaction when grown in milk. Soon, however, it was seen that, if the bacillus was cultivated for three days, then its action upon milk was exactly similar to that produced by the germ of Asiatic cholera. Finally, these various experiments led to the conclusion that the comma bacillus, if not quite identical with that discovered and described by Dr. Koch in India, resembled in every respect the microbe of cholera cultivated at the Bacteriological Institute of Saigon by Dr. Calmette. As for the effects on the patients they were identical—rice-water evacuations, cramps, cold at the extremities, black vomit, cyanosis, &c. Post-mortem examinations have confirmed the opinions resulting from bacteriological researches; and by the side of what seemed to be cases of only cholera nostras, there have been other, and many other, cases that in no wise differed from Asiatic cholera.

Words are not strong enough to express the indignation that must naturally be felt at the persistent efforts made to conceal the true facts, which are now at last openly admitted and published in the medical world, though the daily political papers still continue to speak of the "choleriform" epidemic. The means of disinfection and isolation in and about Paris are far from perfect. The machinery at the disposal of the authorities to meet such emergencies is not very elaborate or complete; and this is especially the case in the outlying districts, the residents of which so far have been the principal sufferers. It was therefore necessary that everyone should be on the alert, that the intelligence and the devotion of the public should supplement what the authorities lacked in means of action. Instead of this we have had a foolish attempt to hush up the matter, though previous experience should have shown how dangerous and futile such secrecy must be.

On Nov. 4th, 1884, Dr. Dujardin-Beaumetz addressed the Academy of Medicine. He said now that the danger was all over, now that there had not been a case for an entire month, he would relate what measures had been taken and how a small epidemic of cholera having broken out in the suburbs of Paris the disease had been successfully stamped out. From June 24th to Oct. 4th the epidemic had prevailed, and though it had only caused forty deaths no doubt was entertained that these deaths were due to genuine cholera. Cholera was then existing at Marseilles and at Toulon, and it was easy enough to account for its probable importation to the neighbourhood of Paris. Dr. Dujardin-Beaumetz congratulated himself and the Academy of Medicine on the fact that the epidemic was now quite over, that no alarm had been caused, and, in spite of the secrecy observed, efficient measures had been taken to prevent the epidemic spreading. On that very day (Nov. 4th), while Dr. Dujardin-Beaumetz was thus confidently claiming that the danger was over, five cases of cholera occurred in Paris and two deaths ensued. A few days later (Nov. 10th) there were 110 deaths, and the epidemic continued to spread within the walls of Paris. Altogether 938 deaths occurred from cholera in Paris. This experience shows, first, that the cholera attacked the suburbs of Paris and remained in the suburbs for a considerable time before it came within the walls—that is, the fortifications—of Paris. It shows, further, that the secrecy then observed was of no avail in preventing the disease spreading, and finally that the subsidence of the cholera in the suburbs did not indicate that the danger was over.

With slight fluctuations the present epidemic is continuing and some cases have occurred within Paris. Perhaps an idea of the gravity of the situation may be formed from the fact that there were 217 disinfecting operations performed last year at the central stations in the course of the month of June, whereas during the month of June this year the number has increased to 1223. Since the month of May last no doubt can have been entertained that we were in face of genuine cases of cholera, and yet it is only within the last few days that the fact has been admitted. Some 200 deaths are supposed to have occurred, and the proportion of deaths is two out of every three cases. It would be reprehensible to wait for anything more serious than this before warning the public. In the suburbs of Paris the alarm is widespread in spite of the secrecy observed, and I have heard of some schoolmasters who accompanied the school-children back to their homes in order to see that they did not drink water on the road and recommended the parents to give them only boiled water. At St. Denis the cases have occurred principally among the inhabitants of the Quai de la Seine, the Boulevard Ornano, the Route de la Révolte and the Avenue de Paris, where the houses are all supplied with water from the Seine. The inhabitants of St. Denis who have escaped from the epidemic drink water taken from an artesian well. Somewhat late in the day, but still better late than never, the water companies have convoked a conference, which is to meet at Asnières, one of the suburbs near Paris, where there have been several cases of cholera. The conference is to discuss what are the best means of filtering water. There is no question as yet of supplying the suburbs of Paris with other than Seine water, but perhaps some better methods might be employed of filtering this water. But for the contamination of the Seine as it approaches and passes through Paris the water of the river would be good, and, as I have explained, in the suburbs of Paris the water is taken from the river after and not before it has reached the capital. Considering that two-thirds of the Paris sewage fall into the river it is not surprising if the water is contaminated.

Paris July 12th.

LYING-IN HOSPITAL, LIVERPOOL.—A new Cottage was formally opened on Tuesday, July 12th, which has been added to this institution on Brownlow-hill. The charity has existed nearly a century, having been established in 1796. In that year 126 patients were treated, at a cost of £450. Last year 2000 cases were dealt with, at an expenditure of £2150. The hospital on Brownlow-hill was erected some years ago, but additional accommodation had been found necessary, the total outlay for which (including furnishing) is £2000, and of this sum £900 is still required.

[1] The other instances quoted also press for an explanation.

HOSPITAL ACCOUNTS.

OUR readers are aware that the Council of the Hospital Sunday Fund, when circulating their request for the various hospital accounts a few months ago, suggested that these statements should in the present year be prepared in the form which had been drawn up by the Committee of Hospital Secretaries convened under the auspices of the Mansion House Council to consider that matter. The result of that suggestion is now before the public in the form of a series of financial statements for the present year and it must be confessed that it is a most disappointing result and one that augurs badly for the ultimate success of persuasive methods in improving the present modes of hospital administration. The result is disappointing because the authorities of the hospitals have paid so very little heed to the suggestion. In this it seems to us that they are equally ungracious and unwise—ungracious because the request was an eminently reasonable one, with which they might have complied at very little cost of trouble or inconvenience to themselves, and unwise because delay in a matter of this kind is much more likely to result in an aggravated demand than in any event more agreeable to the hospital authorities. The importance of uniformity in the presentation of accounts is a thing which has been clearly apprehended by the public or that section of the public which busies itself with such discussions, and it is not at all likely to pass out of sight. Even the Committee of the House of Lords, which has observed the strictest moderation in all its criticisms, has insisted on the importance of this reform, and has made further recommendations which proceed on the assumption that accounts will hereafter be rendered in some commonly adopted form. That being so, resistance to the movement which has for its object the security of this uniformity is now untimely, and those, if any such there are, who have reason to think that the form of statement which has been actually proposed would be but ill adapted to their own use should, if well advised, be the first to attempt the task, and thus they may be able to convince either themselves or the Accounts Committee of their mistake. The statements now made public do not, however, show any sign of a serious or general effort to reduce this suggestion to the test of experience. Barely half a dozen institutions have adopted the suggested form; the rest have ignored it and reproduced the schedules which they have used heretofore, with the result that the new form, so far from bringing the statements into a uniform shape at the present time, has actually increased the existing confusion by superadding a new type to those already in use.

For this unfortunate result the Council of the Hospital Sunday Fund cannot be held in any way to blame. To them it is a matter of some consequence that the information upon which they have to apportion the funds committed to their charge should be supplied to them in a readily available form—that is to say, in a form which makes the comparison of various institutions as simple a matter as such a thing can be. At best it cannot be a really simple thing, so great is the diversity of the features which have to be compared, so many are the points at which general impressions and more or less vague estimates must of necessity take the place of exact analysis. It was therefore an eminently reasonable thing that the Council of the Fund should ask applicants to present their claims in a common form that would as far as possible facilitate comparison. Equally reasonable was the course which the Council adopted in the drafting and settling of the form. This was entrusted to a committee of hospital secretaries, who might fairly be expected to have the interest of their institutions not only at heart, but also very clearly in view; so that no demand for information would be likely to be put forward which could not be safely and easily satisfied. If the hospitals had been asked to furnish their accounts in the form, for example, which has been put forward in our pages and which was submitted by the representative of THE LANCET to the Lords' Committee, it might very possibly and very plausibly have been said that the change would involve a considerable departure from the familiar lines, and such an alteration in the method not only of presenting but also of keeping the accounts as could not well be accomplished offhand. No such objection can be alleged against the Hospital Sunday Fund Schedule. Its shortcoming is that it follows so closely the old and accustomed lines that it does not convey the information which the public most desire and which it is necessary to bring clearly out in the interest of the hospitals themselves. In a word, the fundamental considerations of perspicuity and completeness in the statement have been sacrificed in the preparation of this form to the subordinate consideration of what will cost least trouble to the officer charged with the preparation of the accounts, and yet even to the extent of adopting a form of statement modified so slightly from that with which they are familiar the secretaries for the most part have refused to accede to the request of their benefactors.

The criticism which we have here passed upon the Council's form of financial statement merits a somewhat fuller reference than a mere passing allusion. The reason of our fault-finding has been, indeed, fully stated when we say that perspicuity and completeness are the qualities which, above all others, should be conspicuous in a document of this kind. But perspicuity and completeness are relative terms, which must be understood in relation to some purpose which the statement is to serve. Now, the end of a financial statement is to exhibit to the reader the financial condition of the account which it summarises. In the case of a hospital the financial condition is ascertained by considering (1) how much is annually expended on the work of the institution, (2) how that expenditure is distributed among the various departments; (3) what is the amount of the income available to meet the expenditure; and (4) from what sources that income is derived. These four heads of inquiry should be fully worked out. A statement which leaves any one of them in obscurity is to that extent incomplete. A statement which deals with them all may be passed as complete, and one which deals with them all in such a way as to be easily read and understood is both complete and perspicuous. Tried by this test the Council's form will be found to be wanting in both particulars. To allude, first, to its failure in respect of perspicuity. Those who drafted it have followed the prevalent but eminently perplexing practice of making the first entry on the income side of the account the amount of the balance brought forward from the previous year. This is a mere accountant's trick, and it has the mischievous result of making it impossible to discover without an arithmetical operation what is the actual income of the given year. An illustration will make this clear. Suppose that a given account contains the following items:

Balance brought forward from last account	£500	0	0
Income from charitable sources	10,000	0	0
Income from property	1000	0	0
Total...	£11,500	0	0

Here the total income of the year under notice does not at all appear, since the total figure represents not income only but income *plus* a balance which is the residue of the income of a previous year, the aggregate being an artificial sum which satisfies no other condition than that of balancing an equally artificial aggregate sum on the other side of the account. It would be quite easy to exhibit the self-same figures in a clearly intelligible form, thus—

Income from charitable sources ...	£10,000	
Income from property	1000	
Total income		£11,000
Balance brought forward from last account		500
Grand total		£11,500

Here the reader discovers at a glance what is the total amount of the income for the year, and if the expenditure be treated upon a similar plan he may discover at a glance whether the income of the year has balanced the expenditure or no. The form issued by the Council misses this point and, by introducing the balance brought forward at the head of the income column, involves the whole statement in needless obscurity.

Another point in respect of which this statement stands in need of improvement is the presentation of that part of the income which is derived from legacies. This is here shown under the head of "Extraordinary Income," a term which is doubtless intended to convey the meaning that the sums so classified are regarded as windfalls—sources of income not to be counted upon as yielding an annual return. To a large proportion of the income from legacies such a description is plainly applicable; but when it is found

that year after year for long periods of time legacies come in, sometimes in greater sometimes in smaller volume, but never sinking below a considerable figure, it is plain that no committee of reasonable men would think of actually regarding the whole of such income in this light. The proper course and the course always adopted in actual practice is to treat the income from legacies as falling under two heads. One part may fairly be regarded as "ordinary" or "regular" or "renewable" income not distinguishable in this respect from what is derived from annual subscriptions for example. The residue is properly classified as extraordinary or occasional income not to be counted upon, and when received, suitable rather for investment than to meet the ordinary outgoings of routine expenditure. Now this being by common consent the sound theory of hospital finance, the perspicuous way of stating the account must be to make a corresponding division in the statement and to carry part of the sum received from legacies to the ordinary and the residue to the extraordinary branch of income. The form now under discussion passes the whole in one sum to the head "extraordinary income."

These are small points, comparatively speaking, and in respect of them the form of statement adopted by the Council might be modified without adding in any way to the labour of preparing the account or the difficulty of persuading the hospitals to adopt it. With reference to the statement of expenditure, larger questions arise, and the views which we advocate would doubtless meet with more opposition, as involving a much more serious departure from existing practice. This, therefore, is a topic on which we cannot enter at the present moment—considerations of time and space forbid it. We reserve for another occasion this more debateable matter.

DUBLIN UNIVERSITY TERCENTENARY.

[SECOND NOTICE.]

ON Thursday morning, the 7th inst., a procession of delegates, graduates, undergraduates and members of corporate bodies, in academic or official robes, passed through the streets from the Examination Hall, Trinity College, to the Leinster Hall. Previously to their arrival the string band of the Sussex Regiment performed a number of musical selections and during the presentation of addresses played the national airs of a good number of the countries represented. The hall where the presentation of addresses from the delegates to the University of Dublin took place was decorated with garlands of evergreens and flags, while the front of the galleries was festooned with draperies of gold and white cloth over a red ground; and plants and flowers were placed in different parts of the hall, which was exactly in the same condition as at the banquet given there on the previous evening. The arms of the College, in colours, were placed in various parts of the building; and it may be mentioned that the correct arms, as recent investigations have shown, are a castle with two towers, over which is a book—presumably the Bible—and above this a lion and a harp without the crown. The chair was taken by the Earl of Rosse, Chancellor of the University, and the Provost gave an address, being followed by the Lord Mayor. The Vice-Provost then called out the names of each member of the deputations presenting addresses, who passed up from the body of the hall and, shaking hands with the Chancellor and Provost, took their seats on the dais. Professor Richet, of the University of France, spoke in his native tongue and received quite an ovation from the large audience present, the other speakers being Sir James Paget, Bart., for the University of London; Mr. D. C. Gilman, LL.D., President of the Johns Hopkins University, U.S.; Professor Schipper, University of Vienna; Professor V. D'Hondt, University of Ghent; Professor H. M. Saxtorph, University of Copenhagen; Baron F. von Richthofen, University of Berlin; Professor C. P. Tiele, University of Leyden; Professor A. Vambéry, University of Buda-Pesth; Professor Gaudenzi, University of Bologna; Professor F. Hagerup, University of Christiana; Dr. T. T. Martens, University of St. Petersburg; Professor J. Kollmann, University of Basle; Dr. J. Peile, Vice-Chancellor, University of Cambridge; and Rev. H. Boyd, Vice-Chancellor of the University of Oxford. The following is the order in which the delegates were called upon by the Vice-Provost to present their addresses:—

Africa.—University of the Cape of Good Hope, Rev. J. Thompson.

Australia.—University of Adelaide, Professor J. Hudson Beare; University of Melbourne, Professor T. G. Tucker; University of Sydney, Hon. Peter Faucett and Mr. H. E. Barff.

Canada.—Queen's University, Kingston, Professor D. H. Marshall; M'Gill University, Montreal, Professor Alexander Johnson, Vice-Principal; University of New Brunswick, Professor W. F. Stockley; University of Toronto, Professor W. J. Ashley and Professor J. J. M. Baldwin; Trinity College, Toronto, Ven. Archdeacon Jones.

India.—University of Bombay, Sir Raymond West, K.C.I.E.; University of Calcutta, Sir A. Croft, K.C.I.E.; University of Madras, Mr. J. Kernan; University of Punjaub, Hon. W. H. Rattigan, Vice-Chancellor.

New Zealand.—University of New Zealand, Professor H. L. Ferguson.

England.—University of Durham, Rev. Professor A. Plummer; King's College, London, Hon. R. C. Parsons; University College, London, Rev. Professor T. G. Bonney; Victoria University, Professor G. H. Rendall, Vice-Chancellor, and Professor A. S. Wilkins; University of London, Sir James Paget, Bart.

Ireland.—Catholic University, Very Rev. Monsignor Molloy, Rector; Queen's College, Belfast, Rev. T. Hamilton, President; Queen's College, Cork, Dr. J. W. Slattery, President; Queen's College, Galway, Dr. T. W. Moffett, President; Royal College of Physicians, Dr. J. Magee Finny, President, and Dr. J. W. Moore; Royal College of Surgeons, Dr. Edward Hamilton, President, and Sir Charles Cameron; Royal University, the Marquis of Dufferin and Ava, Chancellor.

Scotland.—University of Aberdeen, Sir W. D. Geddes, Principal, and Rev. James Myers Dawson; University of Edinburgh, Sir Wm. Muir, K.C.S.I., Principal, and Professor Masson; University of Glasgow, Professor Ramsay and Professor J. Ferguson; University of St. Andrews, Lord Acton.

Wales.—University College, Aberystwyth, Professor W. J. Johnston; University College, Bangor, Mr. H. R. Reichel, Principal; St. David's College, Lampeter, Professor A. W. Scott.

America.—Johns Hopkins University, Dr. D. C. Gilman, President, and Professor S. Newcomb; University of California, Professor W. Carey Jones; Columbia University, Professor H. T. Peck; Cornell University, Professor Hiram Corson; Harvard University, Professor W. G. Farlow; College of New Jersey, Rev. F. L. Patton, President; University of Pennsylvania, Dr. J. S. Billings, Professor E. J. James and Professor W. R. Newbold; Yale University, Professor T. R. Lounsbury and Rev. J. H. Twichell; National Academy of Sciences, Washington, General F. A. Walker; Smithsonian Institution, Dr. James C. Welling.

Austria.—University of Vienna, Professor J. Schipper; Academy of Sciences, Vienna, Professor Theodor G mperz.

Belgium.—University of Ghent, Professor V. D'Hondt and Professor A. de Ceuleneer.

Denmark.—University of Copenhagen, Professor H. M. Saxtorph.

France.—University of France, Professor Lannelongue, Professor Bonet-Maury, Professor Beljame, Professor Lafaye, Professor Richet, Professor Tisserand; Academy of Aix, Professor Joret; Academy of Caen, Professor Mabilleau; Academy of Montpellier, Professor Soubeiran.

Germany.—University of Berlin, Baron F. von Richthofen; Royal Prussian Academy of Sciences, Berlin, Professor W. Waldeyer; University of Erlangen, Professor Paul Gordan; University of Gottingen, Professor Franz Kielhorn; University of Heidelberg, Professor A. Merx; University of Kiel, Professor Friedrich Blass; University of Munich, Professor Ludwig Boltzmann; University of Rostock, Professor Friedrich Hashagen; University of Strasburg, Professor G. F. Knapp.

Holland.—University of Leyden, Professor C. P. Tiele and Professor H. Oort, Rector; University of Amsterdam, Professor B. J. Stockvis, Rector Magnificus; University of Utrecht, Professor H. Snellen, Rector Magnificus.

Hungary.—University of Buda-Pesth, Professor A. Vambéry, Professor Z. Beothy.

Italy.—University of Bologna, Professor A. Gaudenzi; Accademia della Crusca, Florence, Sir J. Kingston James; Accademia dei Lincei, Rome, Professor F. Brioschi

Norway.—University of Christiania, Professor F. Hagerup.

Russia.—University of St. Petersburg, Dr. T. T. Martens and Dr. N. E. Wedenski.

Switzerland.—University of Basle, Professor J. Kollmann; University of Bern, Professor T. Studer, Rector; University of Geneva, Professor Nicole; University of Lausanne, Professor A. Maurer, Rector.

University of Cambridge.—Dr. J. Peile, Vice-Chancellor; Rev. H. M. Butler, Master of Trinity College; Professor A. Macalister, Sir G. G. Stokes, Bart.

University of Oxford.—Rev. H. Boyd, Vice-Chancellor; Sir H. Acland, Bart.; the Bishop of Oxford.

From 4 to 6 P.M. there was a garden party at the Royal Hospital, Kilmainham, given by General Lord Wolseley and Lady Wolseley, which was attended by a large number of guests; and at 8 P.M. the same evening there was a dramatic performance at the Gaiety Theatre. The theatre was crowded from pit to ceiling by guests and citizens, the National Anthem being sung on the arrival of His Excellency the Lord Lieutenant. The first play was a comic sketch written by Dr. Woods and C. W. Wilson, A.B., entitled "Botany Bay."

On Friday, the 8th inst., in the Examination Hall of Trinity College, addresses were delivered to the students by guests of the University. The chief speakers were: Professor Wilhelm Waldeyer of Berlin; Professor Cremona of Rome, who spoke in Italian; Professor Max Müller, who delivered an eloquent and interesting address: M. Leon Say; General Walker of Boston; and Professor G. Bonet-Maury of Paris. Later in the evening the Lord Chancellor gave a banquet to 150 guests in the dining-hall of the King's Inns. The toast of "The Universities of the World" was given by Professor Dowden in felicitous language and was replied to by Professor Cremona, Dr. Martens (St. Petersburg) and Baron von Richthofen. The University ball in the Leinster Hall the same evening was a brilliant and successful affair and fitly terminated the week's proceedings. Earlier in the day Lord and Lady Rosse entertained at Birr Castle a large number of Tercentenary visitors, luncheon and afternoon tea being provided. Great interest was shown in Lord Rosse's famous telescope, which was exhibited and minutely explained by the astronomer, Dr. Boedicker. The visitors, who thoroughly enjoyed their day's outing, were conveyed in his lordship's vehicles to and from the railway station, special trains being engaged both going and returning. The weather during the week, it may be added, was exceptionally good.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following list is a continuation of the contributions received at the Mansion House up to Thursday last in aid of the Metropolitan Hospital Sunday Fund. The amount received up to the present is £37,100; the amount at the corresponding date in 1891 was £39,250.

	£	s.	d.
St. Peter's, Cranley gardens (Rev. Dr. Ridgeway)	226	15	3
West London Synagogue for British Jews (per Rev. Dr. Marks)	230	2	0
Wimbledon Churches (per Rev. Canon Haygarth)	225	8	8
St. John's Wood Presbyterian Church (Rev. J. Munro Gibson, D.D.)	94	8	7
George Palmer, Esq. (a further)	105	0	0
Holy Trinity, Upper Tooting (Rev. J. H. Potter)	35	2	9
St. Matthew, West Kensington (Rev. W. C. Tucker)	50	0	0
St. Luke, Westbourne Park (Rev. R. J. Knowles)	72	11	9
St. George's, Bloomsbury (Rev. A. Boyd Carpenter)	50	0	10
All Saints, Notting Hill (Rev. Canon Trench)	44	10	5
Newington (Surrey) Parish Church (Rev. Canon Palmer)	25	16	2
All Saints, with Holy Trinity, Wandsworth (Rev. Wm. Reed)	61	0	0
St. Sophia Greek Church, Bayswater (Very Rev. the Archimandrite)	84	18	3
Holy Trinity, Westminster (Rev. G. Miller)	20	0	0
"C. S. A." (a further)	20	0	0
Magdalene Hospital Chapel, Streatham (Rev. W. Watkins)	34	7	9
St. Stephen's, Westminster (Rev. W. H. C. Twining)	46	13	10
Berkeley Chapel, Mayfair (Rev. F. G. Elliot)	50	0	0
Upper Holloway Baptist Chapel (Rev. J. R. Wood)	30	18	6
St. Stephen's, Clapham-park (Rev. Dr. Wainwright)	32	13	3
Haverstock-hill Congregational Chapel (Rev. J. Nunn)	22	10	0
Upper Norwood Congregational Church (Rev. Geo. Martin)	41	7	3
St. Alfege's, Greenwich (Rev. Brooke Lambert)	23	15	11
Christ Church, Harrow-road (Rev. H. G. Thwaites)	23	0	11
North Finchley Congregational Church (Rev. Thos. Hill)	27	5	4
Rectory-place Congregational Church, Woolwich (Rev. A. J. Viner)	20	0	0
St. Barnabas, Pimlico (Rev. Alfred Gurney)	29	10	0
Box outside Mansion House	5	6	3
St. Mary and St. John the Divine, Balham (Rev. Thos. Bates)	55	8	11
St. James', Hatcham (Rev. W. H. Stone)	41	12	0
All Saints, Putney (Hon. and Rev. R. Henley)	32	0	0
Islington Parish Church (Rev. W. H. Barlow)	20	11	6
St. Stephen with St. Thomas Iron Church, Paddington (Rev. T. Harvey Brooks)	100	11	11
St. Peter, Bayswater (Rev. C. N. Moore)	109	11	8
Christ Church and St. Barnabas, North Finchley (Rev. H. Stephens)	28	16	11
Blackheath Congregational Church (Rev. Chas. Wilson, M.A.)	100	18	5
St. Stephen, Gloucester-road (Rev. J. P. Waldo)	218	13	6
St. John the Divine, Kennington (Rev. C. E. Brooke)	66	11	1
St. John's, Notting-hill (Prebendary R. Thornton)	74	12	2
St. Agnes', Kennington Park (Rev. T. B. Dover)	25	3	1
Wilmington Parish Church (Rev. R. Jamblin)	22	2	6
J. J. Randolph, Esq.	20	0	0
Harecourt Chapel, Canonbury (Rev. H. Simon)	20	0	0
South Kensington Presbyterian Church (Rev. R. Milner)	21	0	0
St. John the Baptist, Leytonstone (Rev. W. J. Bettison)	20	3	4
St. Paul's, Lorrimore-square, and Missions (Rev. C. H. Simpkinson)	30	4	9
St. James's, Norland-square (Rev. A. Williamson)	30	0	0
Streatham-hill Congregational Church (Rev. J. P. Gledstone)	40	1	5
East Finchley Congregational Church (Rev. H. Barron)	26	8	1
St. John's, Deptford (Rev. E. J. Hone)	47	6	2

"MEDICAL AID SOCIETIES AND THE PROFESSION."

In an annotation bearing the above heading on page 98 of our last issue, we stated that we should be happy to obtain a legal opinion on the points raised by our correspondents if one of the bonds in question were furnished to us. A form of agreement has been submitted on which we have, through our solicitors, obtained a legal opinion from Mr. J. W. Gordon, Barrister-at-Law, which we subjoin.

Opinion.

The agreement as to which I am asked to advise the Editors of THE LANCET is made between a medical practitioner of the one part and the trustees of an unregistered medical aid society of the other part and binds the former to serve the society in a professional capacity, giving his whole time thereto in return for a salary of one hundred and fifty pounds a year in addition to a residence and an allowance equal to three-fourths of the amount earned by him in the way of midwifery and vaccination fees. It is a special term of this agreement that the medical officer "agrees that he will not, either directly or indirectly, undertake private practice while in the service of the said Association, and on his engagement with the said Association being determined he will not, either directly or indirectly, practise as a physician or surgeon within a radius of seven miles of the surgery within a period of five (years[1]) from the time of his engagement as aforesaid being determined, under a penalty of two hundred pounds as liquidated ascertained damages."

These terms appear to be very onerous, but I entertain no doubt that the agreement is binding and could be enforced by the trustees. Two remedies would be open to them if the medical man were to commence practice in violation of the agreement—that is to say, an injunction to restrain the breach or a judgment for the amount of the penalty. If the latter remedy were followed they could recover the full amount—£200—of the agreed damages.

I will deal in order with the points about which I understand doubt to have arisen.

1. Although the society is unregistered, the agreement, being made with trustees, could be by them enforced.

2. There is consideration sufficient to support the agreement in the fact that the medical officer received his appointment upon these terms. This has long been settled law and was so laid down by the late Master of the Rolls (Jessel) in the case of Gravely *v.* Barnard (18 L. R. Eq. 518).

3. The limits imposed are not unreasonable in respect either of space or time. So long ago as the end of the last century it was decided that a radius of ten miles and a period of fourteen years were for this purpose reasonable

[1] The word "years" is omitted from the copy agreement supplied to me.—J. W. G.

limits. (Davis *v.* Mason, 5 T.R., 120.) More recent decisions make it clear that no time limit need be imposed if the undertaking be reasonably limited in respect of the prohibited area.

4. The language of the clause in question is very involved and indeed ungrammatical; so much so that upon first reading I was disposed to doubt whether the meaning had been made sufficiently clear for a Court to act upon it. But upon fuller consideration I am satisfied that the intention of the parties is made clear enough. In coming to this conclusion I have borne in mind the very vague terms of a similar agreement to which effect was given in the case of Saint[illegible] *v.* Ferguson (7 C.B. 716). J. W. GORDON.

Plowden-buildings, Temple, July 14th, 1892.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Withington Urban District.—The annual death-rate in this local board district last year was 15·0 per 1000, a rate in excess of that which has for some years past prevailed. The zymotic rate was as low as 0·6, and no death occurred from any of the continued fevers or from small-pox. When attacks of infectious disease occurred they were promptly attended to; some cases were removed to Monsall Hospital, and local sanitary defects were dealt with. Measures are being adopted as to the disposal of refuse, but the necessary preliminaries do not appear to be settled. The ash-pit privy still retains its hold on the district, 2947 such structures being in existence; and, contrary to common experience, the scavenging is said to be perfectly satisfactory. Appended to Dr. Railton's report is a good account of the work done by the sanitary inspector.

Epping Rural Sanitary District.—Following upon an account of the attacks from infectious diseases, which included twenty-three of scarlet fever and fifteen of diphtheria in Chigwell alone, comes a somewhat detailed statement as to the sanitary inspections carried out during the year. The value of real isolation seems to have but little hold on the public mind, for only two cases were removed to the sanatorium. The main sanitary requirements of the district are set out by Mr. Trevor Fowler as follows:—Better houses for the working classes; better drainage for villages, hamlets and groups of houses; abolition of cesspools and connexion of houses with existing sewers; the supply of proper water in place of that derived from surface wells; the securing of certain urban powers; and the proper fitting of the sanatorium. The death-rate for the year was 16·9 per 1000.

Whitechapel.—Mr. Loane's district now includes a population of 74,261, and the death-rate during 1891 was 24·7 per 1000. Whilst the general death-rate is greater than that for the metropolis, the zymotic rate contrasts favourably with that for London as a whole. This must be regarded as satisfactory in view of the difficulties which Whitechapel presents. Of this class of diseases the largest number of deaths was thirty from diphtheria, a disease which is making substantial inroads on large communities. Improved dwelling accommodation is continuing to be made and 337 fresh apartments have been provided in model dwellings during the year; houses unfit for habitation have been closed, pulled down or repaired, and this on an extensive scale. Mr. Loane also gives an excellent summary of the London Public Health Act such as must be of considerable value to many residents and others who are not in touch with Acts of Parliament. Great improvements are anticipated as work progresses on the new lines indicated, and we hope Mr. Loane is right in saying that the "house sweaters" will find the Act in this respect a "terror" to them. The sanitary staff will need increasing for the steady increase in duty that is in prospect, and to this aspect of affairs attention is very properly drawn at the onset.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6362 births and 3347 deaths were registered during the week ending July 9th. The annual rate of mortality in these towns, which had declined in the preceding three weeks from 17·8 to 17·1 per 1000, was again 17·1 last week. In London the rate was 17·2 per 1000, while it averaged 17·1 in the thirty-two provincial towns. The lowest rates in these towns were 10·2 in Norwich, 10·3 in Croydon, 11·1 in Cardiff, and 13·0 in Brighton; the highest rates were 20·6 in Wolverhampton, 20·1 in Manchester, 22·1 in Liverpool, and 23·2 in Sunderland. The 3347 deaths included 503 which were referred to the principal zymotic diseases, against 477 and 486 in the preceding two weeks; of these, 161 resulted from diarrhœa, 134 from measles, 83 from whooping-cough, 49 from scarlet fever, 47 from diphtheria, 28 from "fever" (principally enteric), and 1 from small-pox. The lowest death-rates from these diseases were recorded in Brighton, Norwich, Huddersfield and Bolton; the highest in Preston, London, Leicester, and West Ham. The greatest mortality from measles occurred in London, West Ham, Birmingham, Nottingham, Leicester, Gateshead, and Halifax; from scarlet fever in West Ham, Preston, Swansea, and Plymouth; from whooping-cough in Manchester, Burnley, and Blackburn; from "fever" in Preston and in Hull; and from diarrhœa in Liverpool, London, and Leicester. The 47 deaths from diphtheria included 30 in London, 4 in Birmingham, 2 in West Ham, 2 in Nottingham, and 2 in Newcastle-upon-Tyne. A fatal case of small-pox was registered in London, but not one in any of the thirty-two provincial towns; 27 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 5 in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2372, against numbers increasing from 1226 to 2211 on the preceding fifteen Saturdays; 301 new cases were admitted during the week, against 284 and 331 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 181 and 185 in the preceding two weeks, declined to 170 last week, and were 29 below the corrected average. The causes of 59, or 1·8 per cent., of the deaths in the thirty-three towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Nottingham, Bradford, Leeds, and in twelve other smaller towns; the largest proportions of uncertified deaths were registered in Cardiff, Birmingham, Liverpool, Preston, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·3 and 18·0 in the preceding two weeks, further declined to 17·6 during the week ending July 9th, but was 0·5 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 12·0 in Perth and 12·6 in Leith to 19·1 in Paisley and 20·6 in Glasgow. The 489 deaths in these towns included 22 which were referred to measles, 21 to whooping-cough, 7 to diarrhœa, 5 to scarlet fever, 4 to "fever," 3 to diphtheria, and not one to small-pox. In all, 62 deaths resulted from these principal zymotic diseases, against 85 and 83 in the preceding two weeks. These 62 deaths were equal to an annual rate of 2·2 per 1000, which was 0·4 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 35 and 31 in the preceding two weeks, further declined last week to 22, of which 20 occurred in Glasgow. The deaths referred to whooping-cough, which had been 27 and 23 in the previous two weeks, further fell to 21 last week, and included 19 in Glasgow. The 7 fatal cases of diarhœa also showed a slight further decline from those recorded in recent weeks. The deaths from scarlet fever, which had been 3 and 9 in the preceding two weeks, fell to 5 last week, of which 3 occurred in Glasgow and 2 in Edinburgh. The 3 fatal cases of diphtheria showed a decline of 4 from the number in the previous week.

and included 2 in Glasgow and 1 in Paisley. The deaths referred to diseases of the respiratory organs in these towns, which had been 80 and 89 in the preceding two weeks, declined last week to 71, and were 6 below the number in the corresponding week of last year. The causes of 52, or nearly 11 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined from 31·6 to 24·6 per 1000 in the preceding three weeks, further fell to 21·8 during the week ending July 9th. During the thirteen weeks of last quarter the death-rate in the city averaged 31·3 per 1000, against 18·9 in London and 17·8 in Edinburgh. The 146 deaths in Dublin during the week under notice showed a decline of 19 from the number in the preceding week and included 13 which were referred to measles, 3 to diarrhœa 2 to whooping-cough, 1 to diphtheria, 1 to "fever," and not one either to small-pox or scarlet fever. In all, 20 deaths resulted from these principal zymotic diseases, equal to an annual rate of 3·0 per 1000, the zymotic death-rate during the same period being 3·4 in London and 0·8 in Edinburgh. The fatal cases of measles, which had declined from 27 to 20 in the preceding three weeks, further fell to 13 last week, a lower number than in any week since March last. The 3 deaths from diarrhœa exceeded the number in any recent week. The fatal cases of whooping-cough, which had been 5 and 1 in the previous two weeks, were 2 last week. The death referred to diphtheria was the first recorded within the city since the beginning of May last. The 146 deaths registered in Dublin last week included 27 of infants under one year of age and 31 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons slightly exceeded the numbers recorded in the preceding week. Eight inquest cases and 5 deaths from violence were registered; and 35, or nearly a fourth, of the deaths occurred in public institutions. The causes of 10, or nearly 7 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING JUNE, 1892.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality during the month of June in each of the forty-one sanitary districts of London. With regard to the notified cases of infectious disease in London during last month, it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the accompanying table was equal to 9·9 per 1000 of the population, estimated at 4,263,294 persons in the middle of this year. Owing to the epidemic prevalence of scarlet fever in the metropolis this rate shows a further increase upon those recorded in the preceding four months, which had risen from 5·1 to 9·4 per 1000. Among the various sanitary districts the rates last month were considerably below the average in Paddington, Fulham, Hampstead, Strand, St. Saviour (Southwark), St. Olave (Southwark), and Rotherhithe; while they showed the largest excess in Westminster, Holborn, City of London, Bethnal-green, Whitechapel, Mile End Old Town, Poplar, Newington, Woolwich, and Plumstead. The prevalence of small-pox showed a marked decline in London, an average of 16 cases weekly being notified in June, against 27 in May; of the 80 cases notified during last month 16 belonged to Shoreditch, 8 to Whitechapel, 7 to Islington, 7 to Lambeth, and 7 to Plumstead sanitary districts. The Metropolitan Asylum Hospitals and the Highgate Small-pox Hospital contained 40 small-pox patients at the end of June, against 108 at the end of May; the weekly admissions averaged 11, against 29 during the preceding month. The prevalence of scarlet fever during June showed a further marked increase upon that recorded in recent months. This disease was proportionally most prevalent in Hackney, Holborn, City of London, Whitechapel, Mile End Old Town, Poplar, Newington, Woolwich, and Plumstead. The Metropolitan Asylum Hospitals contained 2117 scarlet fever patients at the end of June, against numbers increasing from 1142 to 1652 at the end of the preceding four months; the weekly admissions averaged 238, against 118, 170, and 200 in the previous three months. Diphtheria showed the highest proportional prevalence during June in Hammersmith, Westminster, Hampstead, City of London, Bethnal Green, Whitechapel, and Mile End Old Town. There were 255 cases of diphtheria under treatment in the Metropolitan Asylum Hospitals at the end of June, against numbers increasing from 198 to 220 at the end of the preceding four months; the weekly admissions averaged 49, against 28, 33, and 41 in the previous three months. Among the various sanitary districts enteric fever was proportionally most prevalent in St. Martin-in-the-Fields, Bethnal Green, and Rotherhithe. The Metropolitan Asylum Hospitals contained 57 enteric fever patients at the end of June, against numbers steadily declining from 285 to 47 at the end of the preceding seven months; the weekly admissions averaged 10, against 9 and 8 in the preceding two months. Erysipelas showed the highest proportional prevalence during June in Marylebone, Bethnal Green, Whitechapel, Limehouse, and Greenwich.

The mortality statistics in the accompanying table relate to the deaths of persons actually belonging to the various metropolitan sanitary districts, the deaths occurring in the institutions of London having been distributed among the various sanitary districts in which the patients had previously resided. The distribution of these deaths, and especially of those resulting from zymotic diseases, affords the most trustworthy data that can be secured upon which to calculate reliable rates of mortality. During the five weeks ending July 2nd the deaths of 6910 persons belonging to London were registered, equal to an annual rate of 16·9 per 1000, against rates declining from 24·2 to 18·8 in the preceding four months. The lowest death-rates in the various sanitary districts during June were 10·0 in Hampstead, 11·3 in Lewisham (excluding Penge), 11·4 in Wandsworth, 12·0 in Plumstead, 13·8 in Battersea, 14·3 in Hackney, and 14·4 in Islington; in the other sanitary districts the rates ranged upwards to 21·6 in Limehouse, 21·9 in the Strand, 22·2 in Mile End Old Town, 22·4 in Newington, 23·4 in Holborn, 23·7 in Whitechapel, and 29·9 in St. George-in-the-East. During the five weeks of June 1249 deaths were referred to the principal zymotic diseases in London; of these, 556 resulted from measles, 200 from diarrhœa, 187 from diphtheria, 159 from whooping-cough, 110 from scarlet fever, 31 from "fever" (including 28 from enteric and 3 from simple fever) and 6 from small-pox. These 1249 deaths were equal to an annual rate of 3·1 per 1000, against rates steadily increasing from 2·5 to 3·3 in the preceding four months. Among the various sanitary districts the lowest zymotic death-rates were recorded in St. Martin-in-the-Fields, Strand, St. Olave (Southwark), Lewisham, Woolwich and Plumstead; and the highest rates in Hammersmith, Whitechapel, St. George-in-the-East, Mile End Old Town, St. George (Southwark) and Newington. Six fatal cases of small-pox belonging to London were registered during June, of which 2 belonged to St. Luke, and one each to Chelsea, Camberwell, Greenwich, and Plumstead. The 556 deaths referred to measles exceeded by as many as 235 the corrected average number in the corresponding month of the preceding ten years; among the various sanitary districts this disease showed the highest proportional fatality in Paddington, Kensington, Hammersmith, Whitechapel, Mile End Old Town, and Newington. The 110 fatal cases of scarlet fever were 22 above the corrected average number; this disease was proportionately most fatal in Westminster and Newington. The 187 deaths referred to diphtheria were nearly double the corrected average; this disease showed the highest proportional fatality in Hammersmith, City of London, Whitechapel, St. George-in-the-East, and Mile End Old Town. The 159 fatal cases of whooping-cough were 118 below the average; among the various sanitary districts this disease was proportionally most fatal in Limehouse, St. George (Southwark) and Newington. The 28 deaths referred to enteric fever were 17 below the corrected average; this disease showed no marked excess last month in any of the sanitary districts. The 200 fatal cases of diarrhœa were 55 above the average; this disease was most fatally prevalent in Shoreditch, Whitechapel, and Mile-end Old Town. In conclusion, it may be stated that the mortality in London during June from these principal zymotic diseases in the aggregate was as much as 22 per cent. above the average, owing principally to the epidemic prevalence of measles.

Infant mortality in London, measured by the proportion of deaths under one year of age to registered births, was equal to 125 per 1000 during June; the lowest rates of infant mortality were recorded in St. James (Westminster), St. Martin-in-the-Fields, St. Olave (Southwark), Rotherhithe, Wandsworth, Woolwich, and Plumstead; the highest rates in Holborn, Clerkenwell, Shoreditch, Whitechapel, and St. George-in-the-East.

MONTHLY ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON.—JUNE, 1892.

(Specially compiled for THE LANCET.)

Sanitary areas.	Estimated population in the middle of 1892.	Notified Cases of Infectious Disease.												Deaths from Principal Infectious Diseases.												Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Croup.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,263,294	80	2471	604	1	182	19	18	522	48	4	4039	9·9	6	556	110	187	159	—	28	3	200	1249	3·1	6910	16·9	125
West Districts.																												
Paddington	119,199	—	42	14	—	4	—	2	6	—	—	68	5·9	—	37	2	4	2	—	—	—	5	50	4·4	209	18·3	135
Kensington	166,721	1	67	21	—	6	—	1	12	2	—	110	6·9	—	34	2	5	3	—	2	—	2	48	3·0	252	15·8	141
Hammersmith	100,642	2	30	39	—	2	—	—	11	—	—	84	8·7	—	40	1	12	4	—	—	1	9	67	6·9	196	19·3	137
Fulham	98,195	1	34	8	—	6	—	—	10	—	—	59	6·3	—	7	—	1	7	—	—	—	7	22	2·3	137	14·6	150
Chelsea	97,300	2	49	15	—	1	—	—	10	2	—	79	8·5	1	11	2	3	3	—	—	—	6	26	2·8	152	16·3	131
St. George (Hanover-square)	76,946	—	44	15	—	2	—	—	—	—	—	61	8·3	—	10	1	3	2	—	1	—	—	17	2·3	113	15·3	123
Westminster	55,203	—	33	27	—	1	—	1	6	—	—	68	12·8	—	2	5	5	2	—	—	—	1	15	2·8	97	18·3	141
St. James (Westminster)	24,368	2	8	3	—	—	—	1	4	—	—	18	7·7	—	1	—	4	—	—	—	—	—	5	2·1	36	15·4	74
North Districts.																												
Marylebone	140,799	—	68	30	—	6	—	—	24	2	—	130	9·6	—	8	7	4	3	—	1	—	6	29	2·1	260	19·3	140
Hampstead	71,652	—	20	17	—	2	—	—	4	—	—	43	6·2	—	4	—	5	1	—	—	—	3	13	1·9	69	10·0	125
St. Pancras	234,207	3	83	30	—	10	—	2	31	2	—	161	7·2	—	25	4	9	7	—	2	—	7	54	2·4	399	17·8	128
Islington	324,451	7	114	60	—	19	1	—	47	3	—	251	8·1	—	16	4	12	7	—	2	—	21	62	2·0	448	14·4	144
Hackney	235,370	4	180	42	—	15	2	1	23	3	—	270	12·0	—	17	8	12	6	—	1	—	7	51	2·3	322	14·3	99
Central Districts.																												
St. Giles	30,071	1	18	5	—	2	—	—	7	1	—	34	9·1	—	2	1	2	—	—	—	—	2	7	1·9	63	16·8	88
St. Martin-in-the-Fields	14,204	—	2	3	—	4	—	—	—	—	—	9	6·6	—	—	—	—	—	—	—	—	—	—	—	23	16·9	—
Strand	24,256	—	4	4	—	1	—	—	1	—	—	10	4·3	—	2	—	—	—	—	—	—	—	2	0·9	51	21·9	111
Holborn	32,912	—	29	3	—	2	—	1	4	—	—	39	12·4	—	3	2	—	2	—	—	—	4	11	3·5	74	23·4	198
Clerkenwell	65,482	—	33	8	—	2	1	—	10	1	—	55	8·8	—	7	1	2	1	—	—	—	4	15	2·4	125	19·9	175
St. Luke	41,850	4	25	3	1	2	1	—	7	1	—	44	11·0	2	5	2	—	—	—	—	—	3	12	3·0	82	20·4	102
City of London	36,092	1	45	14	—	3	—	—	5	1	—	69	19·6	—	3	3	4	1	—	—	—	—	11	3·1	62	17·6	143
East Districts.																												
Shoreditch	123,683	16	78	17	—	7	—	—	22	2	—	142	12·0	—	21	5	7	3	—	1	1	15	53	4·5	239	20·2	160
Bethnal Green	129,408	3	82	33	—	10	—	—	29	3	—	160	12·9	—	27	4	9	6	—	3	—	6	55	4·4	232	18·7	133
Whitechapel	74,853	8	57	38	—	2	—	2	16	2	—	125	17·4	—	20	4	8	4	—	—	—	8	44	6·1	170	23·7	185
St. George-in-the-East	45,343	—	21	9	—	—	—	—	2	2	—	34	7·8	—	8	2	6	1	—	—	—	6	23	5·3	130	29·9	191
Limehouse	57,480	1	33	7	—	3	—	1	11	5	—	61	11·1	—	9	2	3	5	—	—	—	2	21	3·8	119	21·6	145
Mile End Old Town	107,811	3	81	27	—	5	—	2	12	2	—	132	12·8	—	23	3	9	6	—	2	—	14	57	5·5	230	22·2	129
Poplar	107,857	—	145	42	—	9	3	—	20	3	—	222	13·8	—	34	3	5	8	—	1	—	6	57	3·5	298	18·5	119
South Districts.																												
St. Saviour (Southwark)	26,073	—	4	5	—	1	—	—	3	1	—	14	5·4	—	4	—	1	—	—	—	—	—	5	1·9	50	19·3	135
St. George (Southwark)	59,846	—	25	4	—	3	—	—	7	—	—	39	6·8	—	11	2	3	7	—	1	—	4	28	4·9	116	20·2	119
Newington	116,049	—	111	7	—	8	—	—	21	—	—	147	13·1	—	34	7	2	12	—	2	—	2	59	5·3	250	22·4	133
St. Olave (Southwark)	12,787	—	6	1	—	—	—	—	—	1	—	8	6·5	—	2	—	—	—	—	—	—	—	2	1·6	18	14·7	70
Bermondsey	84,440	—	65	5	—	—	—	1	8	1	—	80	9·9	—	17	4	—	2	—	1	—	3	27	3·3	158	19·5	124
Rotherhithe	39,459	—	11	6	—	5	—	—	2	1	—	25	8·8	—	3	—	3	—	—	—	—	3	14	3·7	69	18·2	86
Lambeth	277,917	7	169	43	—	5	11	1	40	3	4	283	10·6	—	25	13	15	16	—	1	1	14	85	3·2	429	16·1	108
Battersea	156,313	—	103	29	—	8	—	2	18	1	—	161	10·7	—	14	4	5	8	—	—	—	7	38	2·5	207	13·8	133
Wandsworth	164,003	—	74	13	—	9	—	—	20	1	—	117	7·4	—	17	2	5	4	—	2	—	6	36	2·3	179	11·4	58
Camberwell	241,465	3	176	21	—	7	—	—	20	—	—	227	9·8	1	30	6	9	6	—	2	—	8	62	2·7	344	14·9	110
Greenwich	169,734	2	114	22	—	2	—	—	27	2	—	169	10·4	1	12	1	9	7	—	—	—	5	35	2·2	260	16·0	111
Lewisham (excluding Penge)	74,673	—	40	1	—	2	—	—	9	—	—	50	7·0	—	—	1	—	8	—	—	—	1	10	1·4	81	11·3	90
Woolwich	41,376	—	48	1	—	2	—	—	3	—	—	54	13·6	—	2	—	1	2	—	2	—	—	7	1·8	63	15·9	86
Plumstead	91,704	7	100	2	—	5	—	—	10	—	—	124	13·8	1	4	2	—	3	—	1	—	3	14	1·6	108	12·0	74
Port of London	—	2	—	—	—	1	—	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

THE SERVICES.

THE PROFESSORSHIPS AT NETLEY.

THE question of the professorships at Netley gravely affects the interests of both the Army Medical Service and Army Medical School. Surgeon-Colonel Godwin, it will be remembered, was appointed to the Chair of Military Surgery at Netley in succession to Sir Thomas Longmore, C.B. It has been decided that Surgeon-Colonel Godwin is not to draw the pay and allowances of his rank, but those of the professorship he holds; and as there is a considerable difference between the two, Surgeon-Colonel Godwin not unnaturally objects to be subjected to a serious pecuniary loss for the honour of being Professor of Military Surgery at Netley. Owing to the death of Sir William Aitken, the appointment of Professor of Pathology is also vacant. No officer of the Medical Staff has probably the same claims to the appointment, on the score of ability, special knowledge and previous training as assistant professor of the subject, as Surgeon-Colonel F. H. Welch; but the decision in the case of Surgeon-Colonel Godwin is applicable to both cases alike and governs the decision of the officers in question. Surgeon-Colonel Godwin resigns his professorship and Surgeon-Colonel Welch declines to accept that of pathology without the emoluments of his present rank. It is understood that the former officer reverts to the service and goes to India, and the latter will probably proceed to the Devonport district as principal medical officer. This will deprive the list of brigade surgeons of two steps of promotion. It seems probable that a civilian will have to be selected for the chair of Pathology in succession to Sir William Aitken; but we may assume that his chair of Military Surgery cannot be filled by anyone but a military medical officer with the requisite rank, reputation, experience and qualifications for such an appointment. It is a very laudable ambition for a medical officer to desire to fill a professorial chair at the Netley school and it seems to be distinctly in the interest of the public service that such appointments should be regarded as prizes for medical officers. It must surely be a wise policy to encourage medical officers to maintain and develop a high standard of professional knowledge and efficiency and to strive to qualify themselves for appointments in their own special institutions.

THE ROYAL UNITED SERVICE INSTITUTION.

A good deal of interest has been displayed of late in regard to the financial position and prospects of the Royal United Service Institution. The institution has done good work in the past. We can recall some excellent lectures delivered within its walls by the late Professors Parkes and De Chaumont, and in these days, when army hygiene and the application of modern medicine to modern war are matters of great interest, there must be a number of subjects on which medical officers are well qualified to speak. An institution of the kind should bring together representatives of all branches of the service and be instrumental in disseminating much useful information on various subjects which dovetail into one another in naval and military services. The powers of the institution in this direction might possibly be further developed. Courses of lectures of a thoroughly practical kind might be given by experts on a variety of subjects not only to officers, but to non-commissioned officers and men of the Army, Militia and Volunteer forces. It has been urged that the medical services should support the institution by joining it in larger numbers than they at present do.

MOVEMENTS OF THE MEDICAL STAFF.

Surgeon-Captain Sawyer has been granted leave from Gibraltar. Surgeon-Captain H. Adamson has re-embarked for Bombay. Surgeon-Captain C. G. Woods has rejoined at Portsmouth, from sick leave. Surgeon-Captain Bostock has resumed his duties in London, on return from Pirbright. Surgeon-Lieutenant-Colonel Finlay has left Aldershot on leave. Surgeon-Lieutenant-Colonel Beamish has been appointed to the Royal Arsenal, Woolwich, in succession to Surgeon-Major Murphy, deceased. Surgeon-Lieutenants Mitchell, Hennessy and Tyacke have reported themselves at Chatham for duty in the Thames district. Surgeon-Captain Burke has rejoined at Colchester, from leave. Surgeon-Lieutenant Dunn has joined at Woolwich for duty. Surgeon-Colonel Jameson has arrived from Egypt, on sick leave. Surgeon-Captain Reckitt has left Shorncliffe on leave. Surgeon-Captain Freyer has rejoined at Belfast. Brigade-Surgeon-Lieutenant-Colonel O'Brien has left Dublin, on leave of absence. Surgeon-Captain Baylor has proceeded to Kilkenny for duty.

By the death of Surgeon-General Hassard, retired pay, a good-service pension becomes available for disposal. As Surgeon-General Hassard obtained this pension whilst on the effective list the recipient of the vacant distinction will presumably be a full-pay officer.

INDIAN MEDICAL SERVICE.

Surgeon-Captain H. A. de Lom, M.S., is attached to the Station Hospital, Colaba, for duty. — Surgeon-Captain H. W. G. Macleod, M.B., 19th (Punjab) Regiment of Bengal Infantry, has been permitted to resign the service from April 25th, 1892, subject to Her Majesty's approval.—Surgeon-Captain T. Grainger is appointed to officiate as Civil Surgeon at Champaran during the absence, on deputation, of Surgeon-Major E. Bovill.—Surgeon-Captain J. G. Jordan is appointed to act as Civil Surgeon of Jessore.—Surgeon-Captain W. H. M. Ingham, on expiration of sick leave, is ordered to do duty in Rangoon district.—On return from deputation duty with the Government of India, Military Department, Surgeon-Captain W. G. Thorold is appointed to the civil medical duties of the Kheri district.

NAVAL MEDICAL SERVICE.—The appointment of Principal Medical Officer at Melville Naval Hospital, Chatham, rendered vacant by the transference of Deputy-Inspector-General T. S. Burnett to Jamaica, has been conferred by the Admiralty on Deputy-Inspector-General Belgrave Ninnis, M.D.—Staff Surgeon A. L. Christie, M.B., has been appointed to the *Naiad*; Fleet Surgeon T. M. Clement, M.D., to the *Clyde*; Surgeon J. O. B. Williams, M.B., to the *Iron Duke*; and Surgeon J. J. Walsh to the *Bramble*.

MILITIA MEDICAL STAFF CORPS. — Hants Company: Surgeon-Captain Walter Scott Warlters from Norwich Company Volunteer Medical Staff Corps to be Surgeon-Captain (dated June 29th, 1892).

VOLUNTEER CORPS.—*Artillery:* 1st Devonshire (Western Division, Royal Artillery): Charles Frederick Rudd, Gent., to be Surgeon-Lieutenant (dated July 9th, 1892).—2nd East Riding of Yorkshire (Western Division, Royal Artillery): Surgeon-Lieutenant Albert Wilson to be Second Lieutenant (dated July 9th, 1892).

Correspondence.

"Audi alteram partem."

"ASPIRATION IN PNEUMOTHORAX."

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me a few lines in reply to the letters in THE LANCET of July 2nd by Professor Gairdner and Dr. Guthrie on the above subject. Dr. Gairdner asks how it was ascertained that no air passed out of the pleural cavity on simple puncture. This conclusion was arrived at from the facts that no rush of air was to be felt, that no movement was communicated to a piece of wool held over the end of the hollow needle and that no change in the position of the displaced heart could be made out. Dr. Gairdner further infers that if air passed out of the pleural cavity by means of aspiration "it would also pass out without the aspirator to such an extent as was needful to relieve pressure." What pressure is meant? The fact that no air escaped after simple puncture indicated clearly that the intra-pleural pressure was not greater than that of the atmosphere, and that therefore relief could come only by slow re-expansion of the retracted lungs, which would allow of the heart swinging back towards its normal situation and thus free the embarrassed circulation. Dr. Gairdner says that in time this would have taken place, but he seems to forget that the patient was so collapsed that full inspiratory movements were not to be expected, and that syncope from cardiac displacement was imminent. In Dr. Gairdner's very successful case, to which he refers, the conditions were entirely different, for there was a rush of air out of the pleural cavity immediately on puncturing with, presumably, instant relief to the urgent symptoms. On the other hand, what was the object in aspirating? Dr. Gairdner erroneously assumes that it was "remove to the whole or the greater part of the air." I hoped by

aspiration to produce such an exhaustion of air in the pleural cavity as would allow of the re-expansion of the *sound* lung, with return of the mediastinum and heart towards their normal position, and as soon as this was affected the needle was withdrawn. This hope was based on the now generally accepted teaching of Dr. Douglas Powell that "the primary cause of displacement of the heart in pneumothorax is not air pressure acting from the diseased side, but lung traction acting upon the healthy side"[1]. Dr. Gairdner seems to imagine that my routine treatment of pneumothorax is by aspiration, but I tried to show in my paper that it was adopted as a last resort to relieve cardiac asthenia, after rest, stimulants, time and finally puncture had failed.

Having tried to reply to the criticisms of Dr. Gairdner on my employment of aspiration in this case I must now consider Dr. Guthrie's advocacy of more frequent aspiration than I ventured to employ, owing to my belief that compression and rest of the lung are beneficial in phthisis. In discussing the pathology Dr. Guthrie confines his attention to the retracted, healthy portion of the lung, which he believes to be adapted for the inroad of the tubercular virus, but ignores the altered condition of the portion of lung which is already phthisical. Before the onset of pneumothorax a consolidated area, except at the extreme apex, is prevented from natural healing by contraction, owing to the rigid chest wall and the traction by the sound part of the lung during inspiration. If rest be secured to the lung by pneumothorax, and if the rigid wall be replaced by an elastic body such as air, nature may then get her opportunity and complete the cure by contraction and cicatrisation. Dr. Guthrie further considers pneumothorax a pure accident, and by no means an indication of active phthisis. While this may be true exceptionally, as in the case of a ruptured emphysematous area, it is not generally so. Professor Gairdner has shown[2] that the progress of tubercular disease in the lungs is accompanied by a plastic inflammation of the neighbouring pleura and that the resulting pleuritic adhesions are often in advance of the actual deposit of tubercle near the surface. Were it not for this "curious and beautifully conservative arrangement" pneumothorax would be the rule and not the exception in phthisis, and its occurrence is usually to be explained by the rapid advance of the disease before pleuritic adhesions have had time to form.

I am, Sirs, yours obediently,

Carlton-hill, N.W., July 11th, 1892. G. A. SUTHERLAND.

"TOOTH CULTURE."

To the Editors of THE LANCET.

SIRS,—Innate imperfections in the tissues, especially in enamel, form the prime factor in the etiology of dental caries, and there exists enough evidence to prove that these imperfections are in the main due to evolutionary and hereditary influences. In all civilised races the size and strength of the whole apparatus of mastication—jaws, muscles and teeth—are inferior. Professor Flower showed some years ago, after examination and measurement of many thousands of specimens, that there is gradual diminution in the size of the teeth from the anthropoid apes through the lower races of man to the European. He constructed a "dental index" and in this the average size of the teeth of the gorilla was represented by 50·8, the Tasmanian by 47·5, other savage and primitive races held intermediate positions, and the European stood at 40·5. Striking evidence of the influence of heredity is afforded daily in dental practice. Nothing is more common than to find in members of the same family jaws and teeth of one general type of quality. Very often the characters are derived from one parent alone—boys "taking after" the mother, girls after the father—and not only does it seem certain that a type of jaw is transmissible but also that a small local deformity or a mal-development of a portion of the maxilla may be passed on to succeeding generations. A tooth or two in the set will also often be found irregularly placed in a parent and some of the progeny; in other instances teeth are to be found presenting in exactly the same situations in parent and child flaws or patches of inferior enamel. It is not uncommon to meet with a mother having first-rate dental tissues who brings forth children whose teeth are inferior and bear the closest resemblance in form and structure to those of the father, and he may be perfectly healthy and free from any physical defect except the dental.

There can be no doubt that enamel and dentine when once fully calcified are not the seat of physiological activity and do not undergo processes of waste and repair. It must be therefore futile to attempt by therapeutic means the prevention of caries by improving the quality of enamel after formation of that tissue. The exteriors of the crowns of all the temporary teeth—from caries of which children suffer so much—are formed at birth; and these teeth can therefore be influenced only through the mother. By the same time the permanent first molars, incisors and canines are so far advanced in development that it is open to doubt whether later treatment can have any effect upon their enamel. That hereditary disease is capable of influencing the development of enamel and dentine has been proved by the observations of Mr. Hutchinson, and, although the typical teeth which he has described are discoverable in only a small percentage of children, unquestionably syphilitic, their occurrence clearly shows that ill-made teeth may result from a constitutional taint. A considerable variety of malformed teeth with pitted rocky ridged or spinous surfaces, commonly classed as "honeycombed" teeth, are frequently met with and are often mistaken for syphilitic teeth. The defects of these teeth are due to causes acting upon the enamel during calcification; probably some form of stomatitis implicating the tooth-sacs in earliest infancy. Mr. Hutchinson has adduced much evidence to prove that the stomatitis in many instances is caused by administration of mercury immediately after birth. It seems sufficiently obvious that if "tooth culture" is to be practised on a rational basis measures must be in the main directed to the improvement of the race. Strict observance of the laws of health will tend to produce good teeth in the nation, and among these laws must be included one insisting upon the use of articles of diet which shall give due exercise to the muscles of mastication and prevent them and the bones to which they are attached from wasting. Such exercise begun early enough may do good in the individual by stimulating the development of the maxillæ and preventing crowding and irregularity of the teeth—a fruitful cause of decay. Crowding leads to lodgment of débris which fermenting produces acid, the indispensable agent in dental caries. It is not likely that dental surgeons will agree with Dr. Harry Campbell, who in THE LANCET of to-day recommends that children should be encouraged to crack nuts with their teeth in order to exercise their jaws, but there is no difficulty in arranging a child's dietary during the whole period of dentition so that articles of food—such as stale crusts and hard biscuits — may be introduced which shall give the masticating apparatus enough work to ensure a more vigorous development than is likely to follow the exclusive use of soft bland substances which require no chewing whatever.

I am, Sirs, yours faithfully,

Wimpole-street, July 9th, 1892. HENRY SEWILL.

"ON ACTINOMYCOSIS OF THE FOOT, COMMONLY KNOWN AS MADURA FOOT."

To the Editors of THE LANCET.

SIRS,—I regret that Mr. Hewlett was not present at the meeting of the Pathological Society when I showed two specimens of Madura disease in the hand and foot, as had he been present he might have saved himself the trouble of criticising "statements which I have been reported to have made."[1] On the meagre evidence of a short report he credits me with having said "actinomycosis bovis cannot be stained by Gram's method unless the saponaceous and calcareous matter be first removed." I certainly did not make any dogmatic statement of this nature. What I did say was, "that at times the fungus masses are so calcified (or saponified) that it is impossible to recognise them as actinomyces until the calcareous (or saponaceous) matter has been removed." This was meant to apply not to actinomycosis bovis alone, but to actinomycosis generally, whether bovis, suis, or hominis. Anyone who has had extensive experience of actinomycosis must have met with cases not unfrequently where no fungus structure could be made out on account of advanced calcification, and where after careful treatment with hydrochloric acid and alcohol the typical structure of the ray-

[1] Medical and Chirurgical Transactions, vol. lix., p. 185.
[2] Clinical Medicine, pp. 397, 398.

[1] THE LANCET, July 2nd, 1892, pp. 18 and 19.

fungus was beautifully exhibited. This is especially common in the pig and the calf, but applies equally to man and the ox. When, therefore, Mr. Hewlett asserts that in "all" cases of actinomycosis bovis Gram's method, with or without previous decalcification, will give brilliant results, I can only explain this on the assumption of a limited experience on his part or of extremely good fortune. When calcification is advanced there is in fact nothing left to be stained by Gram's method, and we can only hope after decalcification to find the mycelial elements which enable us to diagnose the nature of the affection by means of appropriate stains. There are also other inaccuracies in Mr. Hewlett's paper. It must be many years ago that there was the slightest "hesitation in fully recognising the identity of actinomycosis hominis and actinomycosis bovis." For shortly after J. Israel's researches this identity was acknowledged. Whether the fungus is one and the same for the two forms is an open question even now; we may have to deal with varieties of the same species. The difficulty in recognising the identity of mycetoma and actinomycosis cannot and does not lie "in the presence of a network of filaments and the apparent absence of the club-shaped bodies," but it lay in the apparent dissimilarity of the yellow and black forms of the Indian fungus. This latter circumstance has always been the obstacle to accepting Dr. Vandyke Carter's view that mycetoma is a parasitic disease. As a matter of fact the filamentous network in the yellow form was not clearly recognised by Dr. Carter himself, while almost every observer acknowledged its presence in the black form. In a paper which will shortly appear I hope to give unequivocal proof of the actinomycotic nature also of the black variety of mycetoma; a specimen of this form, obtained from the St. Bartholomew's Hospital Museum, showing both clubs and mycelium beautifully.

As far as my experience goes—and this is the usual experience—in cattle the clubs are absent as frequently as in man. But are the rays of any importance in the diagnosis of the fungus? By rays or clubs I mean with others the well-known hyaline fringes in which the mycelial filaments disappear. I cannot understand on what or whose authority Mr. Hewlett asserts that "in cattle the rays readily stain with Gram's method, while there is a central area which as a rule remains unstained." In actinomyces, whether in man or in cattle, the central mycelial zone, the true and typical fungus elements "always" stain with Gram's method, but the hyaline clubs "never" do; in fact they refuse any nuclear stain. In older specimens we find that the filament which disappears in the ray is often distinctly clubbed, and naturally stains with aniline gentian violet, but these club-like endings are not what we call "rays or clubs." The pleomorphism, as I also pointed out at the Pathological Society, was established by Israel, Wolff, Bostroem, and others some years ago; but this pleomorphism does not apply to the rays, for it is now acknowledged by all competent mycologists that the hyaline rays are of no morphological or biological importance, and are probably due to some degenerative changes. The extraordinary differences in the staining reactions of the human form from those of the bovine form are certainly new, and require confirmation. Yet another inaccuracy I must draw attention to. Mr. Hewlett speaks of "the apparent absence of the club-shaped bodies in Madura disease." This assertion is perhaps excusable, as in his "one" specimen they seem to have been indistinct. As a matter of fact, as I pointed out at the same meeting, in most cases the clubs are so very well marked and so gigantic, compared with the forms met with in actinomyces more familiar to us, that it led me to believe that the Indian fungus is not identical with the European form—perhaps a variety of the same species. Drs. Lewis and Cunningham also generally observed tall, fringe-like processes.

In a future publication, to which I have already alluded, I shall enter more fully into the morphology and biology of the Indian fungus and its relation to our forms of actinomyces. I felt it incumbent on me to correct a few statements which "report" laid at my door, and also with a concluding word to correct yet another statement which I am reported to have made—viz., "that Madura disease is undoubtedly due to a fungus, and that this fungus is identical in its staining reactions with actinomyces." As in my forthcoming paper I am giving Dr. Carter all the credit he merits for his original suggestion as to the identity of the Indian and European diseases, I hope it will not be thought that I am attempting to claim priority when I reply that at the meeting of the Pathological Society I said that the fungus found in the yellow form of mycetoma was not only "tinctorially" but also "morphologically and biologically" a form of actinomyces. At that time, however, I had no absolute proof as to the exact relation existing between the ochroid and the melanoid masses, and could not go further than suggest the actinomycotic nature of the black variety, which now, as I hope to show, thanks to the kindness of Mr. Edgar Willett, who supplied me with the necessary specimens, is likewise established Other inaccuracies of Mr. Hewlett with regard to literary references and the morphology of the fungus I shall pass over, as they are outside the purpose of this letter. I apologise for having occupied so much space, but I found it necessary to defend myself against a criticism based on a mere "report," which might have been obviated if Mr. Hewlett had thought fit to learn my actual statements at their proper source.

I remain, Sirs, yours truly,

A. A. KANTHACK, M.B., M.R.C.P.,
John Lucas Walker Student in Pathology,
Cambridge, July, 1892. Cambridge University.

PUBLIC HEALTH AND THE NEW PARLIAMENT.

To the Editors of THE LANCET.

SIRS,—It has long been admitted that a Minister of Public Health would be a desirable addition to the Cabinet. Would not therefore the appointment as President of the Local Government Board of some suitable medical M.P. to an extent accomplish this. Such an appointment might eventually lead up to the creation of a special Minister of public health The time being opportune I have ventured to draw attention to the question, trusting the opinion of the profession will be forthcoming on the matter.

I am, Sirs, yours faithfully,

July 12th, 1892. C. E. ABBOTT, L.R.C.P.I., M.R.C.S.

DANGERS IN RESCUING THE DROWNING BY THE POLE ("AXE") DRAG.

To the Editors of THE LANCET.

SIRS,—It is alleged that in 1884 an unfortunate foreigner, who had tumbled into the water at Havre, whilst his rescue was being attempted by an intended life-saver armed with the clumsy, cumbrous pole-drag, or say rather "pole-axe-" drag (as still recommended by our Royal Humane Society), was fatally struck on the head by the well-meaning rescuer. The Royal Humane Society's practically non-portable pole-drag measures 19 ft. 10 in. in length. Its metal pole-head is about 20 inches across, weighing 3 lb. 10½ oz. This head terminates in three double sharp-pointed hooks or flukes. This pole-drag, with its long 18 ft. ash-pole, weighs about a further 7 lb., so, in all, the present pole-axe-drag of the Royal Humane Society weighs approximately about 11 lb. But in using it, as the chief weight is at the bottom, the leverage or pendulum swing practically brings out a still heavier weight. I am anxious to learn if any of your correspondents can kindly inform me of other fatal accidents alleged to have occurred in attempts to rescue the drowning by the unwise use of the pole-axe-drag of the Royal Humane Society. Lieutenant Brunel has invented a pocket life line having thirty yards of cord. Its grapnel and float only weigh 5 oz. He has also invented a constguard life line with a grapnel weighing 4¾ oz., a long wooden float serving as bobbin or reel, weighing 2½ oz., and further 46½ ft. of stout cord weighing 5½ oz. or in all 12¾ oz., whilst the leather case and strap weigh 4¼ oz. Therefore the entire apparatus, including the case, weighs only about 17½ oz. It is to be hoped that the Brunel system of life-saving will be adopted and introduced into this country, where it is neither patented nor protected. Instead of the former dangerous pole-drags, upwards of 3000 Brunel life lines are now used in France saving over 250 lives a year. Invented in 1874, the Brunel portable life lines have already rescued upwards of 1300 lives in France and her colonies. The cost of the apparatus, though infinitely more efficient and portable, amounts in France to less than a third of the price charged for the apparatus at present recommended by the Royal Humane Society.

On June 13th, 1892, at the Swimmers' Life-saving Society, I exhibited, side by side, the life-saving appliances of the Royal Humane Society and those also on the Brunel system.

The latter were generally approved. In a subject of such vital importance as the rescue of the drowning, it is for the public, who are the patrons and subscribers of the Royal Humane Society, themselves to decide which system is the more efficient and economical.

I am, Sirs, yours faithfully,

J. LAWRENCE HAMILTON, M.R.C.S.,
Late Honorary President, Fishermen's Federation.

Brighton, July 11th, 1892.

HEALTH EXHIBITION IN NOTTINGHAM.

To the Editors of THE LANCET.

SIRS,—Our scheme for holding an exhibition of sanitary appliances in connexion with the annual meeting of the British Medical Association in Nottingham, and under the joint Patronage of the association and the Nottingham corporation, seems likely to prove a success. Thirty-six important firms, including Messrs. Allen, Anidjah, Billington, Bostel, Chorlton, Cliff, F. Cooke, Danks, Duckett, Farmiloss, Foster and Cooper, Henry, Hughes and Lancaster, Jennings, Longford (bedding) Co., Merryweather, Parker and Hassall, Sanitas Co., Sollory and Son, Tylor and Sons, Watts and Whitfield have engaged spaces and paid their deposits. The stalls are 420 feet in length and have a uniform width of eight feet. As already announced the Nottingham corporation have lent the covered and wood-paved yards (measuring 100 feet square) at the rear of the Guildhall and are laying the necessary water mains. The patent jointed drain pipes of Messrs. Parker and Hassall will be laid under the stalls and connected with the nearest street sewer. This complete system of water supply and drainage will enable all working hydraulic apparatus to be shown in operation. The president of the British Medical Association, with the Mayor of Nottingham and Sir Walter Foster, will perform the opening ceremony at 11 A.M. on July 26th. Certificates of merit in three classes will be awarded to deserving manufacturers or inventors. Twelve representative gentlemen from London and the provinces have consented to act as judges of exhibits.

I am, Sirs, yours faithfully,

Nottingham, July 11th, 1892. PHILIP BOOBBYER, Hon. Sec.

THE FRENCH WORKMEN'S SANITARY CONGRESS.

(FROM OUR SPECIAL CORRESPONDENT.)

THE third sitting of the Congress was presided over by M. Audinet, delegated by the Municipality of Châtellerault, with delegates of the Paris and the Angers Labour Exchanges as vice-presidents.

M. Prudent Dervillier, member of the Paris Municipal Council, reopened the discussion on the food of the working classes. He complained of the insufficiency of the French law with regard to the prevention of adulteration. The analysis of articles offered for sale as food must be made through inspectors appointed by the police; thus nothing was done except under the direction of the Prefect of Police. Sanitary reformers took no initiative in the matter. It was not necessary to insist on the evils that result from leaving everything to the initiative of the chief police official, who was not of necessity a competent hygienist. It was a subject for which the working classes should demand special legislation. There should be penalties sufficiently severe to act as a deterrent on those who sought to adulterate food. Then there should be a service of inspection that did not depend exclusively on the Prefecture. The local authorities should have a voice in the matter and consumers ought to possess the means of obtaining an analysis of a suspected article without having to pay an extravagant fee. On all these questions the example of the English Legislature was well worth studying. The English laws against adulteration were far from perfect, but they were infinitely superior to those existing in France. There were now forty-two public analysts for the metropolis of London, whereas in Paris there was only the one municipal laboratory. As the number of analyses made increased the proportion of articles found to be adulterated decreased. In 1872 the proportion of articles proved to be adulterated was equal to 26 per cent. of those that were examined and in 1880 it was only 17·47 per cent. The English law sanctioned the imposition of heavy fines and in some cases of imprisonment with hard labour.

If in England results which, though not perfect, served as an encouraging example had been attained, it would be a great mistake to imagine that this was in any way due to the initiative of the English Government. It was due, on the contrary, to the courageous, bold initiative of individual Englishmen. It was not the custom of the Possibilist party to praise individuals, and they were on principle strongly opposed to all forms of hero-worship. There were circumstances when it was useful to point out what one man could do when inspired by the love of the public good. It was impossible to deal with the question of the prevention of food adulteration in England without describing the initiator of this great reform, the late coroner for Middlesex, Mr. Wakley, M.P. Besides, no name could be more appropriately mentioned at such a Congress as the late Mr. Wakley was one of the early champions of the people's cause It was as far back as 1850 that Mr. Wakley began his campaign. Then adulteration was so much the practice, even among what were considered the most respectable tradesmen and manufacturers, that there was good reason to believe the death-rate was seriously affected. The late Mr. Wakley took upon himself alone to break down this dangerous system of fraud and robbery, though warned by all his friends that such an unequal struggle would entail his ruin. He established a chemical laboratory, sent two persons to buy samples, and, so that his good faith should not be doubted, divided these samples and left one-half in a sealed packet with the tradesman. He then published in his journal, THE LANCET, the result of the analysis. The tradesmen thus detected and denounced were thrown into a wild state of terror and indignation. But the public gave enthusiastic support. Finding that the law was of no service several tradesmen armed themselves with sticks and lay in waiting; but Mr. Wakley had the advantage of being an athlete, and in this respect also had the best of it. French workmen were too indolent and wanting in personal initiative; they were always afraid to complain and were for ever waiting for the Government to come and help them. For this reason the history of Mr. Wakley's endeavours was a useful example. Mr. Wakley had shown that, for instance, out of twenty samples of tea, twelve were false and mixed with poisonous substances. Even opium and other medicaments were adulterated. Of course coffee, pepper and numerous other articles offered a wide field for fraud. They now wanted to render justice to the memory of the man who made these facts matters of public notoriety, who had raised public opinion and had created such an agitation that the government of England was compelled to legislate on the matter. The son and grandson of the late Mr. Wakley were now continuing in these good traditions. It was most important that such independent organs as THE LANCET should exist. The speaker wanted to particularly call the attention of the Congress to the position of the proprietors of THE LANCET. They considered themselves in honour bound and pledged themselves to have no business or financial interest whatsoever in the matters that might be mentioned in the journal. Thus THE LANCET was absolutely independent and free to criticise all and every one. It was a great misfortune that no such independent organ existed in France. All the French papers had business interests to promote and could not follow suit and create a movement such as had arisen in England and which had resulted in the Food and Drugs Act and the Sanitary Act of 1875. Had such a thing been possible in France the lives of thousands and thousands of French workers would have been saved. Yet everyone present at the Congress might attempt, though of necessity on a smaller scale, to follow the example given by the late Mr. Wakley and boldly attack the adulterators. "Let us follow the example of this good English citizen who created the movement that rendered legislation possible and brought about the adoption of those English laws which, with all their imperfections, have nevertheless given some guarantee that the food sold is wholesome, and which have to a notable extent reduced the prevalence of adulteration. We shall then have better food and with better food wiser minds. We shall then be able to judge better and act with greater ability. The workers will more successfully study the causes of their poverty and be in a better position to solve the social problem."

This speech, of which I have given but a summary, was greeted with more than the usual applause. M. Fabré, a journeyman baker from Versailles, followed. He thought the Congress had not given enough attention to the question

of the spoilt or inferior flour which was used for bread. At the military and other dépôts such deteriorated flour was sold at a very low price. What became of it? Measures should be taken to see that it was not used for human food and that it should only be given to cattle. With regard to the 10 per cent. of water over and above the normal quantity so often found in bread the speaker did not think this was added purposely. It was far more profitable to reduce the cost of labour. Journeymen bakers were made to load the oven so frequently that they had not the time to knead the dough properly. Then, as a further economy, the loaves were crowded so close together in the ovens that there was not space enough to bake them properly. To this was due the high percentage of water found. Men who worked fifteen and sixteen hours in a day could not be expected to make bread well, that is carefully and laboriously. The hours of labour should be limited and the output per man per hour very much reduced; then the bread would be well and wholesomely made. The delegate agreed that the muncipality ought to compete against private bakeries, but it would be a mistake to create one large central municipal bakery. The cost of delivering the bread might amount to 10 per cent. of the total cost of producing it, while that of labour would not be more than 6 to 7 per cent. It was much more practical to have a number of small local municipal bakeries and thus the expense of delivering the bread would be very materially decreased. For about £100,000 the municipality could start 120 different bakeries in various parts of Paris, where the journeymen bakers would not be overworked and where genuine, cheap bread could be sold.

M. Heppenheimer, municipal councillor, was anxious that an independent and purely scientific authority should be organised to check adulteration instead of the present police authorities.

M. Caumaud, municipal councillor, apologised for the small wine dealers. They were not the worst culprits, though they certainly did add water to their wine. It was the intermediary merchants who should be watched.

Dr. Paul Brousse, municipal councillor and reporter on this question, urged that the law protected the wholesale merchants while prosecuting the retail dealer. It was only when an article was offered for sale that proceedings could be taken, so it was quite safe to adulterate in a wholesale manufactory. At the wine docks of Bercy the cost would be too great, in consequence of the entrance dues, to adulterate wine. The intermediary firms were the real culprits. They advanced small sums to individuals so that the latter might open retail wine shops. The sum advanced was generally insufficient, the retailer had to borrow more, and in doing so had to accept adulterated wines. When the retailer was caught it was the intermediary merchant who paid the fines and continued to supply bad wines. The law should be able to trace the wine back to this intermediary and thus reach the real culprit.

The Congress now proceded to discuss the second question—namely, the feeding and rearing of workmen's children, or as it was put, the milk question—*la question de l'allaitement*. M. Caumaud reported and said he did not propose to deal with children above the age of two years. The high rate of infant mortality was due to our present bad social organisation which tore children away from their mother's breast. The number of mothers who abandoned the hope of suckling their own children was daily increasing. The child which was the product of a difficult gestation due to excessive toil, prolonged till the eve of its birth, came into the world weak and unhealthy. The mother, anxious to return to the factory or the workshop, sent the infant off to some distant provincial baby farm, where it was almost certain to die. A great step had been accomplished by the humanitarian law of May 23rd, 1874. This law, instituting a system of inspection over all who had charge of children, was more rigorously applied in the neighbourhood of Paris than elsewhere and statistics showed with what beneficent results. The mortality of infants under one year old was 18·44 per cent. in the period from 1868–1872. It fell to 16·72 per cent. for the years 1878–1882, and does not now exceed 15 per cent. This was a clear demonstration of the advantage of legislative interference. M. Caumaud insisted on the duty of mothers to suckle their own children. In the upper classes mothers sought to avoid this responsibility. They were too fashionable to suckle their own children and gave them over to the care of hired wet nurses. This was against nature's laws and should not be allowed. As a result it often happened that either the nurse contaminated the child or the child contaminated the nurse. Many peasant women had caught syphilis through nursing Parisian children. The results of artificial feeding were even more disastrous. In Paris of the assisted infants of the poor the proportion of deaths in 510 of children fed from the breast was 4·90 per cent. and of 669 fed from the bottle 9·56 per cent. In the suburbs of Paris out of 1634 infants fed from the breast 6·36 per cent. died, and out of 1389 fed from the bottle 12·45 per cent. died. M. Caumaud urged that long tube bottles should not be allowed. He proposed that as £600,000 had been spent to build the prison of Nanterre for criminals and vagabonds, at least £400,000 might be spent to create near Paris a vast establishment which would serve as a maternity, where mothers could live with their infants for at least two months after the birth of the child, instead of being driven away in five days, as is done at the hospitals.

Madame Bertier did not like the idea of such vast agglomerations. Nature demands that children should remain with their mothers, and if mothers could not afford to keep their children with them, then sufficient out-door relief should be given to avoid the necessity of separating mother and child.

M. Vallet protested that this was true enough in principle, but in practice many mothers were much too poor and too ignorant to rear their own children. The recommendations given with regard to the precautions for the milk would not be understood; and till such time as the lower labouring classes were better educated and better paid institutions such as had been suggested by M. Caumaud would render great service. Naturally it would be better to keep mother and child together, on condition that the mother did not live in some overcrowded, filthy and insalubrious garret.

The Congress then adjourned.

Paris, July 11th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Infirmary and Owens College.

FOR a long time the question has been agitated whether the Royal Infirmary should accept a site on the Stanley Grove estate, which has been given to the Owens College by the trustees of the late Sir Joseph Whitworth, and should thereon erect a new infirmary. It has been urged that the present building is insufficient and antiquated, and that the site offered by the Owens College would be more suitable, being quieter in its surroundings and about a mile and a half from the centre of the town, for building a new hospital, and that it would be rather more convenient for students inasmuch as it is nearer to the Owens College. On the other hand, plans have been prepared for the enlargement of the Royal Infirmary or the erection on the same site of a new hospital with greater accommodation. These proposals will shortly be laid before a meeting of the trustees of the infirmary. Meanwhile the board of management have refused the offer of the Owens College for a building site on their property. Any scheme for increasing the bulk of buildings on the present site, which is in the centre of the city, will be strongly opposed by many people, who consider that the ground now surrounding the buildings should be preserved as an open space for the general benefit of the town.

The late Professor Schorlemmer

Professor Schorlemmer, F.R.S., who held the chair of Organic Chemistry in the Owens College, died on June 27th. The deceased gentleman, who will be long remembered by many old medical students, became attached to the College in 1861 as assistant to Professor Roscoe, and in 1874 was appointed Professor of Organic Chemistry. He wrote a manual on the chemistry of the carbon compounds and, together with Professor Roscoe, an extensive treatise on chemistry.

Manchester, July 6th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Health of Newcastle City.

DR. H. E. ARMSTRONG (our medical officer of health) has just issued his annual report on the sanitary condition of this city, with tabular reports of the sickness and mortality of the

past year. The returns show reduction in the general rates of births and deaths per 1000 population of all ages, and the former have fallen from 40·5 in 1890 to 35·7 in 1891. The latter have declined from 26·2 to 23·6, notwithstanding the increased mortality from the last six weeks of the year, which attained the average of 35·8 per 1000. The rise is all the more striking from the fact that the average rate for the preceding six weeks to Nov. 21st was only 21·9 per 1000. The principal factors of this abnormal state of things, Dr. Armstrong says, were undoubtedly diseases of the respiratory organs with or without influenza. By far the most fatal infections have been measles and whooping-cough. These together caused 307 of a total of 478 deaths from zymotic diseases and diarrhœa. Small-pox has been entirely absent, and no death from typhus fever has been recorded during the year. Dr. Armstrong shows very forcibly that measles (of which the sanitary department has no official knowledge except from the registrar of deaths, when it is too late to benefit by the information) causes four times as many deaths as scarlet fever. Dr. Armstrong, in his painstaking report, shows how the various sanitary departments are working for the good of the city and instances the work done by the inspectors of nuisances of the common lodging-houses and of the active proceedings of the inspector under the Adulteration Acts.

Sunderland: the New Eye Infirmary.

The foundation stone of the new building for the Sunderland and North Durham Eye Infirmary has been laid by Mrs. Backhouse. The building is to be two storeys high and provides accommodation for sixteen patients. On the ground floor is a waiting-room to hold 200 persons. This is situated behind the Board-room, from which it is separated by a sliding wood partition which enables the two rooms to be turned into one for the purpose of concerts &c. The general form of the plan is an H, which gives the best possible light and ventilation with the greatest economy in construction. The architect is Mr. J. Wardle Donald of South Shields and the cost will be £4590.

Carlisle: Curious Medico-legal Case.

A case was tried at the late Carlisle Assizes before Mr. Justice Denman which possesses many points of medico-legal interest. It was sought by an action to set aside the will of a Mrs. Wilcox made in 1884. She died in 1885 at the age of seventy-five. It was shown that at one time she was insane and imagined she was related to the Countess of Derwentwater and Lord Bute and conveyed the whole of her property to Dr. Goss, Bishop of Liverpool; but she still collected her rents. Dr. Goss had the property reconveyed back to Mrs. Wilcox again. At another time she conveyed all her property to the Jesuits and in the same year made her will. In short, she was frequently settling and unsettling her property. It was admitted that she was an inmate for a time in 1864–5 of the Southern Counties Asylum at Dumfries, her mind becoming unhinged after the severe illness and death of her husband. On the other hand, it was shown by solicitors and others that she was generally a shrewd and even very intelligent lady, who knew very well what she was about. The learned judge in summing up said a person might be insane to a certain extent and yet have a mind sufficiently sound for the purpose of disposing of property. The fact that a person had once been in a lunatic asylum must not of itself be taken as conclusive evidence that the person was incapable of making a will and they must judge of a person's sanity by collateral points, by documents, and by other circumstances. The jury, after a consideration of twenty minutes, found for the validity of the will.

A Long Service.

At the last meeting of the Weardale guardians Mr. Bourne, surgeon, wrote tendering his resignation as medical officer on account of physical infirmities. He said that he had served forty-four years and asked to be recommended for the usual pension. His resignation was accepted with regret by the guardians and the question was adjourned for the next meeting, with the object no doubt of having a full one and a stronger force in the recommendation to the Local Government Board.

At West Hartlepool on Sunday there was a brilliant afternoon to favour the Sunday Hospital demonstration, and the attendance and procession of the Friendly Societies are said to have been the largest on record; it is hoped that the collection will be in proportion. Addresses were given by the Mayor (who presided) and other gentlemen in favour of the fund.

Newcastle-on-Tyne, July 12th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Edinburgh Medico-Chirurgical Society.

THE last meeting of the session of this Society was held last week, Dr. Joseph Bell, the president, being in the chair. Dr. James Carmichael showed a Brain with Abscess of the Cerebellum secondary to internal ear disease, and Dr. James showed a Sphygmometer. There were four papers before the meeting for discussion, the first dealing with Electro-diagnosis by means of the Urine, by Dr. Dawson Turner, who gave an outline of a large number of observations he had made on the subject, the urines being from different classes of cases, and the general conclusion being that the degree of resistance depended mainly on the salts present. [We print a *résumé* of these observations in another column.—ED. L.] The next paper was by Dr. G. A. Gibson, on the Antiseptic Treatment of Pernicious Anæmia, and was a further contribution to the discussion on Pernicious Anæmia which had taken place at the preceding meeting. The communication was based upon a well-marked case of the disease which had resisted treatment by arsenic and in which β naphthol was given, following a suggestion of Dr. W. Hunter. During the administration of the drug in doses of two grains thrice daily the blood improved in corpuscular richness, and two or three months after its commencement stood at 2,320,000 per cubic millimetre and the general condition had correspondingly improved. For purposes of comparison it was also given to an ordinary case of anæmia in a young woman, and in this case also there was a gradual improvement in the corpuscular richness of the blood. The paper gave rise to considerable discussion, which was taken part in by members of the Society who had not been present at the previous discussion, but no further points of special interest were brought out. The next communication was by Dr. J. A. Gibson and Dr. Lockhart Gillespie, entitled "Lessons from the Development of the Heart," and consisted of a lantern demonstration of photographs of transverse sections of the heart showing the thickness of the walls of the ventricles at different periods of fœtal life at different ages after birth, and in some diseased conditions; but the discussion on the practical bearings of these was deferred. The last paper, Notes on Indian Enteric Fever, by Surgeon-Captain C. H. Bedford, Bengal Medical Service, was taken as read, and ordered to be published in the Transactions of the Society.

July 12th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

The late William Colles, M.D., F.R.C.S.I.

AT a meeting last week of the governors of the Rotunda Lying-in Hospital the following resolution was adopted unanimously: "That the board desire to record their regret at the death of the late William Colles, who for many years discharged the duties of consulting surgeon to the Rotunda Hospital." A copy of this resolution has been forwarded to Mrs. Colles.

Sir Patrick Dun's Hospital.

A garden *fête*, under the patronage of the Lord Lieutenant and the Countess of Zetland, will be held this day and to-morrow in the grounds of Gortmore, Dundrum, in aid of this excellent institution. The Blue Hungarian Band and two military bands will add to the attractions of the *fête*.

Royal College of Surgeons.

On Friday, the 8th inst., a portrait and bust of the late Robert McDonnell, M.D., Fellow and ex-President of the College, was unveiled by his Excellency the Lord-Lieutenant. Sir John Banks, K.C.B., said on behalf of the subscribers that he begged to present the portrait and bust to the College. The object was that the esteem in which Dr. McDonnell's personal worth and professional labours were held should be perpetuated. He received his education in their ancient University and followed his father in choosing the profession of medicine. He presided over that College and also over the Royal Academy of Medicine, and his name and fame went beyond this country, for he received the much-coveted distinction of a Fellowship of the Royal Society. Dr. McDonnell rose to the very highest rank in the profession, and it was expected that having regard to his

position, his services and all the good that he did to the State in peace and war, and as a member of several Royal Commissions, that he would receive some State recognition. This was the desire of the public and of the profession, and the Viceroy was of the same opinion. In conclusion, he had on behalf of the subscribers to give the portrait and bust to the College. The presence of his Excellency the Lord-Lieutenant added dignity to their proceedings and showed his kindly feeling and sympathy with their profession. The President, on behalf of the College, having thanked the subscribers, his Excellency made a few appropriate remarks, in the course of which he said that Dr. McDonnell was not only a member of every scientific institutions in Dublin, but was one who gave up a position in Steevens' Hospital and who of his own accord volunteered to go into the dangers of the trenches in front of Sebastopol, where he did signal and extraordinarily good services to his country. He trusted that the bust and portrait, both of which would be admired as works of art and appreciated because of the gentleman to whom they bore a resemblance, would keep his memory alive in many generations of Irishmen.

Graduates' Memorial, Trinity College, Dublin.

A meeting in reference to the proposed graduates' memorial took place during the tercentenary week and was presided over by Lord Rosse. Up to the day of meeting a sum of £6500 had been received or promised, but since then I learn that the fund now available, the major portion of which has been invested in Government stocks, amounts to a much larger sum, and it is confidently expected that £10,000 will be realised before many months have passed. The Board of Trinity College have promised a site within the College, the site to be determined by the amount of contributions received. The proposed building is intended when completed to accommodate the various societies which meet within the walls of the university. The following resolution was adopted: "That the graduates of the University of Dublin desire to express their warm thanks to the Board of Trinity College for the assent accorded by them to the establishment of a Dublin University Union within the precincts of Trinity College as the graduates' memorial of the tercentenary of the College and the University.

Ulster Medical Society.

At the annual meeting held at Belfast on July 8th, the report of the Council was submitted, from which I learn that the Society is in a very flourishing condition, there being a larger number of members than at any previous period of its history. The following office-bearers were elected for the coming session:—President: Dr. Whitaker. Vice-Presidents: Dr. John W. Byers and Dr. Barnett. Treasurer: Dr. Charles Kevin. Secretaries: Dr. McCaw and Dr. Calwell. Librarian: Dr. Cecil Shaw. Pathological Secretaries: Dr. John Campbell and Dr. McQuitty. Members of Council: Dr. J. A. Lindsay, Professor Sinclair, Dr. Ferguson, Dr. Dempsey, Dr. E. C. Bigger and Dr. W. M. Killen.

North of Ireland Branch of the British Medical Association.

The annual meeting of this Society was held in Lisburn on Thursday, July 7th. Mr. St. George, surgeon to the County Antrim Infirmary, president, occupied the chair. After several interesting medical communications had been brought before the meeting Dr. J. Walton Browne (Belfast) was elected president for the ensuing year. After the conclusion of the meeting Mr. St. George entertained fifty members of the North of Ireland branch at luncheon in his house at Lisburn.

Mr. J. E. Kenny coroner for Dublin, has been elected M.P. for the College Green Division of Dublin by a considerable majority.

The session for the present summer has now ended both at the hospitals and at Queen's College, Belfast.

July 12th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Epidemic of Cholera in Paris and its Environs.

WHEN last week I wrote about the outbreak concerning which so much anxiety is felt in this city, I gave it the name of cholerine. I regret that further inquiries compel me to modify its nomenclature and to designate it "cholera morbus." Such is undoubtedly, I believe, the real nature of the epidemic, and no amount of reticence on the part of the authorities can alter the significance of the facts. The epidemic has manifested itself at two principal centres, but situated "down-stream" and located along the great curve described by the Seine around the peninsula of Gennevilliers. The first centre, comprising Courbevoie, Suresnes, Asnières, Colombes and Argenteuil, is, with the exception of the last, situated within the loop, while the second-mentioned village centre is on the right bank, and includes Aubervilliers and St. Denis. It cannot be denied that, however sluggish the disease may be in its rate of extension, the mortality is alarming amongst those attacked, a fatal result often occurring in a few hours after invasion; and although the capital itself has on the whole escaped, a few cases occurring amongst Parisians have for the last few days been registered. Thus, on Saturday last, three cases were reported—one in the eighteenth and two in the nineteenth arrondissements. On Sunday there were eight cases in different arrondissements. Of these eight cases, however, there is reason to believe that five at least were cases of fright, the symptoms being trifling. On Monday two deaths were registered, both victims being infants. On that day four cases were admitted into the Lariboisière Hospital. Several fatal cases are reported from Aubervilliers, St. Denis, Courbevoie, Levallois, Asnières, St. Ouen and at Ivry, where the disease has made its appearance in the large Hospice des Vieillards. Its appearance at Ivry and at Noisy-le-Sec, both situated up-stream, cannot well be attributed to the drinking of contaminated Seine water. Is the disease really Asiatic cholera? In an able article published in the current number of *La Médecine Moderne* Dr. Talamon, the talented editor, replies unhesitatingly in the affirmative. He regards it as proved that the comma bacillus has remained latent until lately in the soil of the Plaine St. Denis since the year 1884, the date of the last epidemic. He recalls the fact that the cholera of 1884 imported to Toulon made its first appearance in the neighbourhood of Paris at St. Denis and Aubervilliers. He observes great similarity between the present epidemic and the outbreak of cholera in 1890 at Puebla de Rugat. In both instances there was no importation from abroad, both occurred at the same time of the year and both were characterised by slow extension and endemicity. The survival of the cholera bacillus in the soil since 1884 is explained by the researches of Hueppe, Wood and Lustig. These *savants* tell us that the cholera bacillus is both aerobic and anaerobic, according to its habitat. In the intestinal canal it is anaerobic. Its virulence is here very intense; but it is, on the other hand, more vulnerable to the destroying action of chemical agents. Hence the importance of the prompt disinfection of choleraic stools. In the superficial layers of the soil the bacillus is aerobic and its vitality becomes greatly increased. Its power of resistance is further increased by the formation of jointed spores—the "zooglées arthrospores" of Hueppe, which, forming a kind of thick viscid network, offer protection against the influence of putrefaction and desiccation. Combined dryness and heat favour its growth, and these atmospheric conditions have been present for the last two months. It further appears that at Aubervilliers extensive road repairing has been in process for a considerable time, thus setting free colonies of microbes, which, finding their way into the drinking water, spread the disease. The comparative benignity of the outbreak is explained by the observation of Hauser, to the effect that if the bacillus lying latent in the soil resumes its morbid properties in contact with the air, it has nevertheless lost the power of reproduction so characteristic of the microbe of direct Asiatic origin. What measures are the authorities taking to stem the choleraic tide? A first step has been taken by the Prefect of Police in the appointment of a sanitary inspection committee, which comprises amongst its members such well-known names as Colin, Dujardin-Beaumetz, Proust, Levraud (President of the Sanitary Commission of the Municipal Council) and Brousse. To these names have been added those of Drs. Thoinet and Dubœuf, both accomplished bacteriologists, together with Drs. Deschamps and Touvenin. These latter gentlemen, each accompanied by a member of the committee, have already begun their rounds in the infected suburbs. The Assistance Publique has determined to utilise the temporary hospital situated in the Bastion No. 36 for cholera cases, such a step being taken in order to prevent as far as possible the introduction of the infection into the

interior of Paris. A sum of 42,500 fr. has been voted by the Conseil Général of the Seine Department in aid of those communes that are willing to make an outlay in the purchase of filters and sterilising apparatus. I may supplement the above information by stating that Dr. Chantemesse, one of M. Pasteur's principal assistants, is decidedly of opinion that we have to deal with true Asiatic cholera. This I have from a private source. So far as I am aware, no cases have as yet been reported from any of the barracks.

The Composition of Dr. Brown-Séquard's Gland Juice.

At the last meeting of the Académie des Sciences M. Gautier announced that Professor de Poehl of St. Petersburg had succeeded in extracting from the pancreas, thyroid body, ovaries and testes a leucomaine called spermine, having the composition represented by the formula $C_5H_{14}N_2$, which he has isolated in the form of crystallised phosphate. A few centigrammes of this base, introduced subcutaneously in the form of hydrochlorate, is said to produce the tonic and exciting effects of Dr. Brown-Séquard's injections, and the discoverer believes that it is to spermine alone that the remarkable results obtained by these injections are due. It appears that spermine possesses great oxidising power, it being capable of rapidly converting, in the presence of gold or platinum chloride, magnesium into magnesia. Under its influence also the nitrogenous extractives of urine are converted into urea. It is pointed out that in Germany spermine is confounded with piperazine, the latter substance being sold for the former.

Paris, July 13th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Death of Professor Hermann Nasse.

PROFESSOR HERMANN NASSE, the oldest member of the medical faculty at Marburg, died the other day. Both his father and his grandfather were medical men of more than average reputation. He was born at Bielsfeld in 1803, studied at the Rhenish Frederick William's University and in Paris, assisted Philipp von Walther in the surgical clinic at Bonn and established himself as a private lecturer there in 1834. In 1837 he was called to the chair of physiology, pathology and veterinary science at Marburg, but afterwards confined himself to physiology. His chief writings are: "Inflammation as illustrated by its Anatomical Results," "Contributions to the Physiology and Pathology of the Blood" (written in conjunction with his father), "The Influence of Nutrition on the Blood," "Lymph and its Formation," and the articles on Blood, Chyle, and Lymph in Rudolf Wagner's "Handwörterbuch der Physiologie" ("Hand Lexicon of Physiology").

Miscellaneous Items.

The appointment of Professor Fischer of Würzburg to succeed A. W. von Hofmann as professor of chemistry and director of the first chemical institute in Berlin is now an accomplished fact. He will enter on his new duties next session. He will be succeeded at Würzburg by Professor Victor Meyer of Heidelberg.

Professor Ludwig Andreas Buchner, who occupies the chair of pharmacology at Munich, will retire at the end of this session.

Dr. Zander, private lecturer on anatomy, and Dr. Nauwerck, private lecturer on pathological anatomy, both of Königsberg, have been appointed professors.

The *Allgemeine Medicinische Central-Zeitung* (General Medical Central Journal), the oldest of the German medical journals, passed into the possession of the publisher, O. Coblentz, on the 1st inst. Dr. H. Lohnstein remains editor.

Berlin, July 12th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

The Medical School.

LAST February some new regulations came into force for the School of Medicine, chiefly on the initiative of the new director and his energetic English colleague. The students will now undergo a six years' course before their final examination for the diploma and the last two years will be devoted to hospital work almost entirely. Before entrance to the school they must prove that they are at least sixteen years of age, of good health, and that they have passed successfully the secondary examination of the Government schools. This rule will get rid of all those of miserable physique and of untrained mental growth. Students will pay some £84 for the whole of their school and examination fees, but special reduction may be made in a few cases to those who are considerably richer in intellect than in pocket. This is an advance upon the late system, under which the Government paid all the boys for the privilege of teaching them. But it must be remembered that elementary education was only commenced in Egypt fifty years ago, and that at that time Mehemet Ali Pacha had to take children from their parents by force to fill his new schools. During the first two years anatomy, among other subjects, will be taught in a much more thorough and practical way than before, and during the first four years there will be gradually diminishing lessons in the English language. Pathology, which until lately has been entirely neglected, will be taught in the third year, and students will also for two years be obliged to attend all the necropsies of the hospital. The present appointment as pathologist and head of the bacteriological department of Dr. Kaufmann, ex-assistant to Professor Weigert, has already borne good fruit, and it is to be hoped that his labours may gradually furnish the now empty shelves of the pathological museum. The third-year students attend the out-patients' department, in the fourth year they visit the wards for an hour a day, and they hold hospital appointments during the fifth and sixth years. The lecturers are bound to formulate their course upon certain standard books chosen by a committee of lecturers and examiners. Those chosen for next year are mostly in Arabic or French, with a few English text-books, such as Fagge, Nettleship, Klein, &c. Written examinations are to be introduced for the first time next October. The annual examinations have just been held orally, with a new board composed of eight members, each of whom has the lecturer of the subject associated with him. These eight members are unconnected with the school, though some of them are on the hospital staff, and for the first time they are to receive a small fee. They are appointed for three years and consist of a native, a French, and four English doctors, together with a French and a German chemist. At the recent examination 106 students presented themselves, of whom 53 were referred till October, the failures being mostly in anatomy, midwifery, pathology and hygiene. This is the first time that the examinations have been conducted on any serious principle. The School of Pharmacy has dwindled down to two students, of whom one failed to satisfy the examiners. The medical school for girls was represented by fifteen, of whom ten were successful. The girls' school has recently been placed under the control of an English nurse holding an obstetric diploma, and the girls when not attending lectures are lodged, fed and clothed in the hospital, where they act as under nurses in the female wards. None of these reforms would have been possible without the coöperation of the Minister for Education—an Armenian Pacha of rare intellectual gifts.

The "Bosphore Egyptien."

It will be remembered that on May 4th a French newspaper here went out of its way to libel Mr. Milton with reference to various surgical operations. The terms of the libel caused the greatest sympathy with Mr. Milton to be manifested by all those not belonging to the French colony, and great joy was evinced yesterday when the verdict of the judges was announced in the civil action brought against the journal. The case was tried in the Court of Mixed Tribunals here, a cumbersome method necessary in a country where every individual is protected by the laws of his own nation. The case came before five judges, two natives, a Russian and an American, with a German president. The *Bosphore* made no attempt to prove its charges and relied for its sole defence upon further abuse of Mr. Milton and his English and German colleagues. It tried, of course unsuccessfully, to prove that Mr. Milton, because he possesses the L.S.A. diploma together with that of M.R.C.S. Eng., was nothing but a simple druggist. The advocate for the defence, who is also one of the owners of the newspaper, made the wildest and most hysterical statements, and, when taxed by the plaintiff's counsel with direct falsehood, he complained plaintively that he had not been able to find any medical witnesses to support the libellous charges. The judges ruled that the libel was "untrue, defamatory and injurious" and condemned the *Bosphore* to pay all costs and £1025 damages, with interest at 7 per cent.

until paid. The judgment was published yesterday in the *Bosphore* and must also appear, by order of the Court, in an English and Arabic local paper. The condemned parties will of course appeal and the case will be reheard at Alexandria in the autumn. The verdict leaked out a few days before, delivered probably through the native judges, and it is an open secret that if it had not been for the German and American members of the Bench the sum awarded would have been absurdly small. The *Bosphore* in its issue last night devotes two furious columns to the iniquities of the Court and threatens Mr. Milton with future disclosures. So long as there is no comic journal published in Egypt we owe a debt of some gratitude to the *Bosphore Egyptien*.

Cairo, July 1st.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT a quarterly meeting of the Council held on the 14th inst., the President reported that at a meeting of the Fellows of the College, held on the 7th inst., for the election of four members of the Council in the vacancies occasioned by the retirement in rotation of Mr. Thomas Smith, Mr. Arthur Edward Durham and Mr. George Lawson, of whom Mr. George Lawson did not offer himself as a candidate for re-election, and by the death of Mr. Matthew Berkeley Hill, Mr. Thomas Smith and Mr. Arthur Edward Durham had been re-elected and Mr. John Tweedy and Mr. Frederick Howard Marsh elected members of the Council. These gentlemen made a declaration in the terms of the oath prescribed by the Charter of 1800 and took their seats as members of the Council.

The minutes of the Museum Committee of the 4th inst. were read as the report from that committee and it was agreed that Mr. Burgess, the museum artist, should be employed for a further period of six months.

The Council decided to supply six additional tables for the display of the dissections of human anatomy.

As recommended by the Committee of Management, the West Riding Lunatic Asylum at Wakefield is to be recognised for the purposes of study required by Section 1, Clause 2, Paragraph 13 of the Regulations of the Combined Examining Board in England.

In accordance with the recommendation of the same Committee, it was decided to provide a sinking fund for the Examination Hall and Laboratories, and the subject was referred back to the Committee for elaboration of a scheme.

The reports of the Laboratories and the Nomination Committees were approved, read and adopted.

The following professors and lecturers for the coming year were appointed: Mr. J. Hutchinson, jun., and Mr. B. Pitts, as Professors of Surgery and Pathology; Mr. B. T. Lowne, Mr. C. B. Plowright and Mr. C. Stewart, as Professors of Comparative Anatomy and Physiology; Mr. J. R. Bradford, as lecturer on Anatomy and Physiology; Mr. J. H. Targett was appointed as the Erasmus Wilson Lecturer.

The President reported the holding of the meeting of Fellows after the election of members of the Council on Thursday, the 7th inst.

A letter was read dated the 4th inst. from Mr. E. Octavius Croft, Secretary to the Faculty of the hospital, enclosing an application from the honorary medical staff of the Hospital for Women and Children at Leeds for the recognition of that institution as giving such clinical instruction in gynæcology as is required by the regulations for the examinations for the Membership of the College. The letter was referred to the Committee of Management for their consideration and report.

Mr. J. H. Targett was elected Pathological Curator for another year. Mr. J. B. Bailey was re-elected Librarian.

Mr. Thomas Bryant was re-elected President of the College for the third time. Messrs. C. Heath and A. E. Durham were elected Vice-Presidents.

The members of the various committees were appointed.

It was agreed, on the motion of Mr. Rivington, that a committee should be appointed to consider and report to the Council on the standing rules, and to submit a revised copy to the Council.

The thanks of the Council were given to Mr. F. G. Hallett for his catalogue of portraits and busts in the Royal College of Surgeons.

The next meeting of the Council will be held on August 1st.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the Second Examination of the Board in the subjects indicated at a meeting of the Examiners on the 4th inst.:—

Anatomy and Physiology.—**Thomas S. Hartley, William F. Rawson, Eric G. Storrs and Percy V. Fry, students of Yorkshire College, Leeds; Walter R. Walton, of University College, Liverpool; Thos. F. Woolley, Wilfred Allport, William S. Willmore, Geo. H. E. Bekenn, Eustace B. Bostock, George E. Atkins and Henry W. Pepper, of Queen's College, Birmingham; Subhan Ali, of Lahore Medical School; Edward W. Battle, of Owens College, Manchester; F. H. Humphris, of Edinburgh University and Mr. Cooke's School of Anatomy and Physiology; Francis F. Noonan, of Melbourne and Edinburgh Universities; Alfred Lockhart and Isaac Wood, of Queen's University, Kingston, Canada.**

Anatomy only.—**Charles A. Phillips, Edward H. Phillips and Geo. Y. Myrtle, of Yorkshire College, Leeds; Henry W. Lloyd, of University College, Liverpool; Ernest W. Ormorod, of Bristol Medical School; Herbert A. L. Banham, of Sheffield Medical School.**

Physiology only.—**Geo. R. Sparrow, of University College, Liverpool.**

Twelve candidates were referred in both subjects, one in Anatomy only, and six in Physiology only.

Passed on the 5th inst.:—

Anatomy and Physiology.—**Philip Macaulay, of Yorkshire College, Leeds; R. Hewlett-Hayes, of Dublin and Guy's Hospital; Leonard N. Pentreath, of St. Thomas's Hospital; David L. Clay and John Hepworth, of Owens College, Manchester; Alfred K. White, of Dublin; William H. Brown, David Horwich, William G. Thomas and William H. G. Wilkes, of Queen's College, Birmingham; Thomas J. Chidley, of Dublin and Mr. Cooke's School of Anatomy and Physiology.**

Anatomy only.—**Wilbye Cooper, John L. Elliott and Arthur T. Lachmore, of Yorkshire College, Leeds; John T. Barritt and Robert Marshall, of Owens College, Manchester; Frederick A. W. Quay, of Trinity College, Toronto; Bernard P. O'Neill, of Guy's Hospital; Howard P. Kennard, of St. Thomas's Hospital; J. A. K. Griffith, of University College; Edward A. McAnnally, of St. George's Hospital and Mr. Cooke's School of Anatomy and Physiology; Augustus C. Greenwood, of Middlesex Hospital.**

Physiology only.—**William Archer and Walter G. Parkinson, of Yorkshire College, Leeds; Thomas W. W. Bovey, of Bristol Medical School; Frederick A. L'E. Burges and John W. Farndale, of Queen's College, Birmingham; Thomas H. Agnew, of University College, Liverpool; Henry J. Heginbotham, James Worthington, and Samuel Crossley, of Owens College, Manchester.**

Nine candidates were referred in both subjects, four in Anatomy only and ten in Physiology only.

Passed on the 6th inst.:—

Anatomy and Physiology.—**Julian Hora, Tom H. B. Yorath and Harry D. Packer, of Guy's Hospital; John C. Padwick, George Miller and Sydney C. Hounsfield, of St. Bartholomew's Hospital; Lewis W. Burrow, of St. Thomas's Hospital; Frederick A. J. R. Brooke, of London Hospital.**

Anatomy only.—**Joseph L. F. de Gannes and Cyrus W. Smith, of University College; Preston R. Wallis, of University College and Mr. Cooke's School of Anatomy and Physiology; Christopher A. A. Coulthard, of St. George's Hospital; Charles F. Stileman, of St George's Hospital and Mr. Cooke's School of Anatomy and Physiology; Thomas H. Parker and Henry P. Cox, of King's College; Ernest H. Tipper, of Guy's Hospital; Percy L. Blaber, of St. Thomas's Hospital: Alan P. Birch, of Middlesex Hospital and Mr. Cooke's School of Anatomy and Physiology.**

Physiology only.—**Ernest E. Crowther, of Yorkshire College, Leeds; George V. Miller and Frederick P. Duncan, of University College; Walter K. Hopkins, of St. Bartholomew's Hospital; Henry A. Burridge, of King's College; Charles C. Jenkins, of Guy's Hospital.**

Fifteen candidates were referred in both subjects, three in Anatomy only and ten in Physiology only.

Passed on the 7th inst.:—

Anatomy and Physiology.—**Alfred Arner, of St. Bartholomew's and Guy's Hospitals; Cecil F. Gordon, of St. Bartholomew's Hospital; Francis J. H. Cann, of Guy's Hospital; Philip G. Mould. of Owens College, Manchester, and St. Mary's Hospital; Geo. B. C. Blount, of St. Thomas's Hospital; Thomas Lambe, of University College; Arthur G. L. Smith, of Middlesex Hospital.**

Anatomy only.—**John W. Ensor and Morton E. Tresidder, of Guy's Hospital; George W. Brown and William Herbert, of St. Thomas's Hospital; Alexander S. McSorley, of King's College; Thomas S. Pigg and Arthur R. H. Skey, of St. Bartholomew's Hospital; Francis A. Phillips, of St. George's Hospital; Morgan D. Blake, of St. George's Hospital and Mr. Cooke's School of Anatomy and Physiology; Randolph L. Grosvenor, of Cambridge University and St. Mary's Hospital; William G. Noble, of London Hospital.**

Physiology only.—**John R. Benson, of King's College; J. S. Hosford, Ernest G. L. Goffe and John W. Stokes, of University College; Edward J. C. Kennedy, of Victoria University, Ontario; Walter A.**

Sharpin, of St. George's Hospital; William A. Carden, of Guy's Hospital; David L. Jones and G. G. Oakeley, of St. Bartholomew's Hospital; A. Stanley-Matthews, of St. Thomas's Hospital; Alfred Carruthers, of St. Thomas's Hospital and Mr. Cooke's School of Anatomy and Physiology.

Nine candidates were referred in both subjects, seven in Anatomy only and nine in Physiology only.

Passed on the 8th inst.:—

Anatomy and Physiology.—Frank Lond, of Guy's Hospital; Arnold E. Lovitt, Wm. G. Mortimer and John H. Power, of London Hospital; Richard T. Cæsar, of London Hospital and Mr. Cooke's School of Anatomy and Physiology; Malcolm Wheeler, of Edinburgh University and St. Thomas's Hospital; Gordon C. Barker, of King's College; William F. Cross, of St. Bartholomew's Hospital; L. H. Callender and Robert W. Dodgson, of St. Mary's Hospital; A. H. Waring, of University College.

Anatomy only.—Edwin Folliott, William M. Coghlan and Bernard W. Holmes, of St. Bartholomew's Hospital; Percy H. Collingwood, James H. de Villiers, George Candler and Frank E. Saunders, of St. Thomas's Hospital; Norman Macdonald, of St. Mary's Hospital; Thomas Herbert, of Middlesex Hospital; Arthur S. Turner, of Guy's Hospital; Alfred W. Hayles, of King's College.

Physiology only.—Gerald H. Goddard and Charles F. Wanhill, of University College; Frederick E. H. Keogh, of St. Mary's Hospital.

Eleven candidates were referred in both subjects, three in Anatomy only and eleven in Physiology only.

Passed on the 9th inst.:—

Anatomy and Physiology.—Clement H. Hunter, Harry F. Spon and Ernest T. Sherland, of Guy's Hospital; Sidney H. White, John B. Brash and Sidney Bridger, of University College; Frank Copeland, of Westminster Hospital; George W. Connor and Thos. H. Wells, of Middlesex Hospital; William W. Woolliscroft, of Charing-cross Hospital; Francis R. S. Cosens and George A. Leon, of London Hospital.

Anatomy only.—William P. Brooke and Montague M. Lowsley, of Charing-cross Hospital; Arthur B. R. Sworn, of University College.

Physiology only.—Richard Lumley Roberts, of Guy's Hospital; Thomas J. McCulla, of London Hospital and Mr. Cooke's School of Anatomy and Physiology; John Blackwood, of University College.

Eighteen candidates were referred in both subjects, three in Anatomy only, and three in Physiology only.

Passed on the 11th inst.:—

Anatomy and Physiology.—Charles J. Kearney and William L. B. Davies, of Guy's Hospital; Richard D. Fisher, Edwin C. Smith and Thomas P. Littlejohn, of London Hospital; Jonas W. Leake, Robert W. S. Christmas, of Charing-cross Hospital; S. E. A. Zichy-Wornarski, of Melbourne University; Marcus B. Johnson, of Cambridge University and St. Mary's Hospital; Joseph Hayes, of McGill College, Montreal, and Mr. Cooke's School of Anatomy and Physiology; Francis E. Clay, of Westminster Hospital.

Anatomy only.—Duncan N. Maclennan, of Queen's University, Kingston, Canada, and Mr. Cooke's School of Anatomy and Physiology; Harold E. Dixon and Thomas W. Turner, of London Hospital; Lewis Savin, of Middlesex Hospital; Willie N. Barron, of St. Bartholomew's Hospital.

Physiology only.—Henry C. Lambart, of Queen's College, Birmingham, and Bristol School of Medicine; Alfred B. Wright, Alexander S. Grant, of London Hospital; John A. Mac Phail, of McGill College, Montreal: David C. Kemp, of University College; Arthur E. Peake and Frederick Moreton, of Westminster Hospital; Alfred R. Hitchfield, of Guy's Hospital; A. A. Rogers, of St. Bartholomew's Hospital; William Ashford, of St. Thomas's Hospital.

Nine candidates were referred in both subjects, five in Anatomy only and four in Physiology only.

Passed on the 12th inst.:—

Physiology only.—Henry Harvey, William P. Thomas John J. Spears and Wm. F. Adams, of London Hospital; Montague H. C. Palmer, of Cambridge University and London Hospital; James R. Webb, of Melbourne University and London Hospital; Richard D. Stacy, William H. Pope, Martin A. Cooke, Percy W. G. Shelley, Burroughs M. Hughes and Alfred N. Wilde, of St. Bartholomew's Hospital; Walter J. O. Ray and Edward Haines, of St. Thomas's Hospital; William Gilbertson, of Cambridge University and St. Thomas's Hospital; Edward Fisk, William F. Byford, Stanley Rivers, Thomas S. Biggs and Percy E. Tresidder, of Guy's Hospital; Arthur T. Davey and John Gardiner, of Middlesex Hospital; Charles Mathews, of St. Mary's Hospital; Daniel Fogarty, of Ledwich School of Medicine, Dublin, and Mr. Cooke's School of Anatomy and Physiology.

Eleven candidates were referred.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentleman, having passed the necessary examinations and having now attained the legal age of twenty-five years, was at the quarterly meeting of the Council on the 14th inst., admitted a Fellow of the College:—

Lea, Arnold William Warrington, M.B. Lond., L.R.C.P. Lond., of Owens College and Royal Infirmary, Manchester; diploma of Member dated Aug. 1st, 1889.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates have passed the recent Primary Examination in the respective subjects:—

Chemistry, Materia Medica, Botany, and Pharmacy.—E. M. Aikin, H. L. Billett, E. C Bond, F. Butcher, E. L. Colebrook, J. G. Horwood, C. E. Long, and E. M. Wells, of the Royal Free Hospital; E. G. Smith, Westminster Hospital; J. K. H. Smyth, St. Mary's Hospital; A. Wheeler, Edinburgh.

Chemistry.—J. Ash, Charing-cross Hospital; S. A. Clarke, Middlesex Hospital; M. Orange, Royal Free Hospital.

Materia Medica, Botany, and Pharmacy.—E. G. Adams, L. M. Blake, E. Briggs, E. M. Gough, M. H. Harris, E. J. Macgowan, H. M. Maitland, M. Thorne, and C. S. Vines, of the Royal Free Hospital; C. Basan and S. Smith, Middlesex Hospital; C. Bayley, Charing-cross Hospital; A. P. B. Ellis, City School of Chemistry; F. T. Knott, Guy's Hospital; L. Macrae, King's College Hospital.

Anatomy and Physiology.—R. B. Allen and A. E. Mellersh, of St. Mary's Hospital; A. T. Anderson, Owens College, Manchester; E. Bentham, C. T. Green, Rukhmabai, L. E. V. Saville, and A. M. Thornett, Royal Free Hospital; H. Clough, Yorkshire College, Leeds; R. Crawford, Belfast; W. J. Gething, Queen's College, Birmingham; W. A. Higgins, Cambridge; D. W. Jones, H. S. Oliver, and T. H. P. Peers, Charing-cross Hospital.

Anatomy.—J. Abrines and A. H. Wade, St. Bartholomew's Hospital; J. T. Brickwell, Guy's Hospital; A. H. Bygott, Queen's College, Birmingham; R. N. de Beauvais, Aberdeen; E. T. Fitzpatrick, Dublin; F. B. Hargreaves, Owens College; E. J. Macgowan, Royal Free Hospital; and A. Wheeler, Edinburgh.

Physiology.—C. Basan, Middlesex Hospital; W. E. V. Gould, Queen's College, Birmingham; T. E. Johnson and T. J. M'Culla, London Hospital.

KILSYTH, STIRLING.—It is stated that Sir Archibald Edmonstone has given the town council of Kilsyth a right to supply water, which will be in addition to the present service, from a spring near Corry, as well as ground for a reservoir, free of expense.

DEVONSHIRE HOSPITAL, BUXTON.—The half-yearly report of this hospital is worthy of notice, for it shows a new departure worthy of imitation by provincial and other institutions of a similar kind. In addition to the medical report of the patients under treatment there is a statistical supplementary medical report, detailing the statistics of cases of rheumatism, rheumatoid arthritis and sciatica, which are collected from notes made since the commencement of the year. This report will give information of value as regards some of the most important points in the etiology of the diseases mentioned, but must be carried on for a much longer time before conclusions of value can be drawn. The house surgeon, Mr. E. Valentine Gibson, and the assistant house surgeon, Mr. H. R. Lloyd-Davies, are to be congratulated on this addition to the report, for without their voluntary exertions it would not have appeared.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—The annual meeting was held on Friday, July 8th, Dr. Chas. Wells, President, in the chair. Dr. Wells delivered his valedictory address, in which he congratulated the Society upon the satisfactory progress of its tenth session. The papers generally have been upon subjects commanding attention and attracting interest, and the evenings devoted to the exhibition of clinical cases proved, as heretofore, very popular and were largely attended. He then referred to the excellence of the Cavendish Lecture by Sir Charles. Cameron, on the Etiology of Typhoid Fever. The subject was admirably chosen, practical, full of original work, and the interesting experiments showing the diffusion of gases through porous soils were very striking, especially in relation to the fact of the greater frequency of typhoid fever upon gravel than upon the clay. This has a considerable bearing upon the salubrity of the locality of London. "Gravels," says Dr. E. A. Parkes in his "Practical Hygiene," "of any depth are always healthy except when they are much below the general surface and water rises through them," and many other authorities testify to the same result. It seems, therefore, that the old prejudice against living upon the clay is not well founded, certainly as regards the prophylaxis of enteric fever. Dr. Wells quoted from the reports of the medical officer of health of Hampstead, where the average death-rate from all zymotic diseases is 1·1 per 1000, in support of this theory. He also corroborated Sir Charles Cameron in pointing out the dangers of underground air entering our dwellings, and insisted upon the importance of covering the whole or the site of the house with cement or allied material. After referring with much regret to the loss by death of four members, Dr. Wells in conclusion again very heartily thanked the Society for the high honour conferred upon him by his election to the presidential chair and warmly acknowledged the generous support and assistance he had received from the Council and officers during his term of office. A vote of thanks to Dr. Wells was carried with acclamation. The following officers and Council were elected for the session 1892–1893:—President: Mr. Swinford Edwards. Vice-Presidents: Mr. R. W. Lloyd, Dr. J. B. Ball, Mr. L. Mark and Dr. Symons Eccles. Council: Drs. Abraham, Banning, Batten, C. W. Chapman, Clippingdale, Masters, Schacht, Messrs. Benham, Bruce Clarke, Percy Dunn, R. Lake and Mansbridge. Treasurer: Mr. Gunton Alderton. Secretaries: Mr. J. Herbert Menzies and Dr. A. Clemow. Librarian: Dr. Schacht.

THE Queen has been pleased to give directions for the appointment of Francis Volcy Pougnet, Esq. M.D., to be a member of the Council of Government of the Colony of Mauritius.

KIDDERMINSTER INFIRMARY.—The committee of this institution has accepted an offer from Mr. Howard C. Jobson of Summerhill to give a donation of £250 to endow a bed in the infirmary in memory of the late Mr. W. C. Audry.

DISEASED MEAT AT ILKESTON.—A Nottingham butcher has been prosecuted by the town authorities, at the Ilkeston Petty Sessions, for exposing for sale forty-seven pieces of meat unfit for human food, and fined 3*s.* for each piece and costs—total £8 7*s.* 6*d.*

LONDON SCHOOL OF DENTAL SURGERY. — On Wednesday, at the Royal Institute Galleries, Piccadilly, Professor St. George Mivart, F.R.S., distributed the prizes won by the successful students at this school, which is in connexion with the Dental Hospital. After the distribution the professor referred to the growth of the school as shown by the fact that, whereas in 1875 the students numbered but ten, at the present time they had increased to one hundred. The principal prize winners were Mr. G. Northcroft, who gained the Saunders's Scholarship, and Mr. H. J. Stevens, who won the prize given by Messrs. Ash and Sons for the best essay. The first prizes in class subjects were awarded to the following: Mr. H. J. Stevens, in Dental Metallurgy and Dental Surgery; Mr. E. H. Harwood, in Dental Mechanics; Mr. T. H. Clarence, in Operating; and Mr. H. W. Trewby, in Dental Anatomy.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION.—At a meeting of the Council held at their rooms, 3, Bolt-court, Fleet-street, on July 12th, 1892, the case of the late Mr. C. A. Walters of Cheltenham, who died on the 8th inst., was further considered, and the following resolutions were unanimously passed: "That the suspension of Mr. Walters by the guardians of Cheltenham for declining to attend the child of Drusilla Cook without a medical order, which was no dereliction of duty whatever, was not only uncalled for but also seriously unjust. That the 'severe censure' passed on Mr. Walters by the Local Government Board for no serious fault, and which appears to have accelerated his death, was unwarranted and even cruel, and especially to a medical officer who had held his appointment for thirty-eight years. That in the opinion of this Council the guardians of the Cheltenham Union were themselves guilty of a grave error in having sanctioned any form of relief being given to Drusilla Cook, who had received over £100 since the death of her husband, and this within the past twelve months, and who had £30 deposited in the savings bank at the time her weekly allowance was granted by the board. That a copy of these resolutions be sent to the guardians of the Cheltenham Union, to the medical journals, and to the Cheltenham local press."

DENTISTRY AND WORKHOUSE CHILDREN.—At the weekly meeting of the Strand Board of Guardians on Tuesday evening an important discussion arose on a communication from the Local Government Board approving of a resolution passed by the guardians of the Strand Union at a recent meeting for the appointment of a qualified professional dentist to attend the children of the schools at Edmonton, the salary, however, not to be made a charge on the common poor fund. The chairman remarked that this was the first appointment of the kind made by any metropolitan or provincial board of guardians, and he thought the Strand Union deserved every credit for initiating such a necessary and beneficial advance in the hygienic treatment of the poor children in their workhouses and schools; but he could not understand the objection of the Local Government Board to charging the dentist's stipend on the common poor fund. Mr. Walker was glad to note that the course taken by the guardians had met with the approval of their regular medical and surgical staff, and there was no narrow-minded professional jealousy or animus shown at the proposed creation of a new semi-medical office. There was a large number of children in the schools of the Union, and for their present physical comforts and future health and prospects in life it was essential their teeth should be well looked after. Several other guardians concurred in the importance of the subject, and in the result the board agreed to carry out the instructions of the Whitehall authorities and to elect a duly qualified dentist at the next meeting.

A HOSPITAL FOR STOURBRIDGE &C.—Mr. John Corbett, late M.P. for Mid-Worcester, has made a further donation of £500 for furnishing and equipping the hospital he is founding for the Stourbridge and Brierley-hill district.

OPEN SPACES.—The Local Government Board has sanctioned the borrowing of £41,250 by the Corporation of Dewsbury, for the purchase and laying-out of a public park and street improvements. The estimated cost of the park is £33,250.

PHARMACEUTICAL SOCIETY OF IRELAND.—The following candidates have obtained the licence of the Society: R. S. Moore, T. J. Walsh, G. F. Walsh, T. Whelehan, G. F. Stevenson, M. L. Tierney, R. J. Cahir, W. J. Hartnett, C. O'Connor, J. H. Graham, H. A. Kelso, and J. W. Peatt.

UNIVERSITY COLLEGE HOSPITAL.—In consequence of the necessity for carrying out extensive repairs, painting, &c., it has been decided to close University College Hospital, with the exception of the maternity department, for six weeks from the 20th inst. The committee appeal for funds to enable them to meet the heavy expenditure.

PRESENTATION TO DR. J. H. BRIDGES.—A massive silver bowl was presented to Dr. J. H. Bridges on Monday, July 4th, in the library of the British Medical Association, 429, Strand, W.C. The bowl had been subscribed for by the medical officers of the metropolitan fever hospitals, district asylums, poor-law schools and workhouses. The chairman, Mr. J. Adams Clarke (Medical Officer of the St. Pancras Schools at Leavesden), in making the presentation, paid a graceful tribute to Dr. Bridges' high qualifications, ability, and courtesy, and acknowledged the help invariably shown by him to those with whom he came into official contact. Dr. MacCombie (of the South-Eastern Hospital) expressed the regard felt for Dr. Bridges by the medical superintendents of the metropolitan fever hospitals, and Dr. A. H. Robinson (of Mile End Infirmary) spoke on behalf of the infirmaries and schools. Dr. Bridges, after expressing his gratification at the handsome present he had just received, spoke of the numerous difficulties encountered when he assumed the duties of an Inspector of the Local Government Board twenty-three years ago. Dr. Bridges, in taking leave of those present, hoped that he should not lose touch of those medical officers with whom he had been in official contact for so many years. The proceedings were brought to a termination by formal votes of thanks to the chairman and to the secretaries of the movement, Drs. Litteljohn and Sydney Stephenson.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ALCOCK, REGINALD, has been appointed Assistant House Surgeon to the North Staffordshire Infirmary and Eye Hospital, vice J. F. Crombie.

ANDREW, A., L.R.C.P., L.M. Irel., has been appointed Medical Officer for the Glossop Sanitary District of the Glossop Union.

BENSON, ANNETTE M., M.B., B.Sc. Lond., has been appointed Resident Medical Officer to the Victoria Hospital for Children, Hull.

CARLING, W., B.A., M.B., B.C. Cantab., has been appointed Assistant House Surgeon to Guy's Hospital.

CARROLL, J., M.B., C.M. Glasg., D.P.H. Camb., has been reappointed Medical Officer of Health for Ilkeston.

CROMBIE, J. FRANK, M.B., C.M. Edin., has been appointed House Surgeon to Great Yarmouth Hospital.

EATON, J., M.R.C.S., has been appointed Medical Officer for the Spittlegate Sanitary District and Workhouse, and Public Vaccinator to the Grantham Union, vice Bailey, resigned.

EVANS, A. ERNEST, M.B., C.M. Glasg., has been appointed House Physician to the City of London Chest Hospital.

FAGAN, JOSEPH P., L.R.C.S., L.R.C.P. Irel., L.M., has been appointed Assistant Surgeon to the South Dispensary, Liverpool, vice Dr. J. G. Moyles, resigned.

FARQUHARSON, WM. F., M.B. Edin., has been appointed Assistant Medical Superintendent to the Counties Asylum, Carlisle, vice D. M. M. Ross, M.B.

FOLKER, HENRY HERBERT, M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Assistant Ophthalmic Surgeon to the North Staffordshire Infirmary and Eye Hospital.

FULLER, JOHN R., M.R.C.S., L.R.C.P. Lond., has been appointed Senior Resident Medical Officer of the Birmingham Children's Hospital.

GARRETT, JOHN HY., M.D., L.S.Sc. Durh., D.P.H. Camb., has been appointed Medical Officer of Health for the Borough of Cheltenham, vice Dr. Sampson Roch, resigned.

GODSON, A. H., B.A., M.B., B.C. Cantab., has been appointed Assistant House Surgeon to Guy's Hospital.

GREEN, A., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Surgeon of the Chesterfield and North-East Derbyshire Hospital.

HAWORTH, S. R., M.D., C.M. Irel., has been appointed House Surgeon to the Bridgnorth Infirmary, vice Craig, resigned.

HOUGHTON, MURTAUGH J., L.S.A., has been appointed Assistant to the House Surgeon and Physician at the Wolverhampton General Hospital, vice R. S. Hogarth.

JOHNSON, T. C., M.B., C.M. Edin., has been appointed Medical Officer for the Middleham Western Sanitary District of the Leyburn Union.

MURRAY, R. W., F.R.C.S. Eng., has been appointed Surgeon to the Liverpool Infirmary for Children, vice R. N. Pughe, resigned.

PEARSON, JOSEPH, M.B., C.M. Aberd., has been appointed Honorary Assistant Medical Officer to the Children's Hospital, Sheffield, vice C. H. Willey, M.D.

RAINY, HARRY, M.B., C.M. Edin., has been appointed Resident Medical Officer to the Chalmers Hospital, Edinburgh, vice Mackenzie.

RICHARDSON, G. Q., L.R.C.P., L.R.C.S. Irel., has been appointed Junior Resident Medical Officer of the Birmingham Children's Hospital.

ROBERTS, J. LLOYD, M.B., C.M. Edin., D.P.H. Eng., has been reappointed Medical Officer of Health for the Abergele and Pensarn Urban Sanitary District of the St. Asaph Union.

ROSS, DONALD M. M., M.B., C.M. Edin., Senior Assistant Medical Officer, Cumberland and Westmoreland Asylum, Carlisle, has been appointed District Medical Officer in the Government Medical Service, Jamaica.

SLEVIN, P. J., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the West Drayton Sanitary District of the Uxbridge Union.

TURNBULL, W. H., M.B., B.S., B.Hy. Durh., has been appointed Medical Officer of Health for the Borough of South Shields, vice Dr. T. E. Hill.

WETHERELL, J. A., M.D., C.M. Edin., has been appointed Resident Medical Officer and Government Resident at Wyndham, Western Australia.

WILLEY, C. H., M.D., has been appointed Honorary Medical Officer to the Children's Hospital, Sheffield.

YOUNG, F. C., B.A., M.B., B.C. Cantab., has been appointed Assistant House Physician to Guy's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

ANCOATS HOSPITAL, Manchester.—Senior House Surgeon. Salary £80, with board and washing.

BOROUGH HOSPITAL, Birkenhead.—Junior House Surgeon. Salary £60 per annum, with board and lodging, but no wine, spirits, or beer. A further sum of from £20 to £25 per annum is usually obtained in fees.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £70, with board, residence and washing.

BURY DISPENSARY HOSPITAL, Bury, Lancashire. — Senior House Surgeon. Salary £100 per annum, with board, residence, and attendance.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon. Salary commencing at £60 per annum, with board and residence in hospital. (Apply to the Honorary Treasurer, 11, Quay-street, Manchester.)

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark-bridge-road, S.E.—Junior Resident Medical Officer. Salary £50.

FULHAM UNION.—Assistant Medical Superintendent of the Infirmary. Salary £100 per annum, increasing £10 yearly to a maximum of £130, with board, furnished apartments, attendance and washing.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—House Surgeon. Salary £60 per annum, with board and lodging in the hospital.

HORTON INFIRMARY, Banbury.—House Surgeon and Dispenser. Salary £60 per annum, with board and lodging.

JOINT COUNTIES ASYLUM, Abergavenny.—Junior Assistant Medical Officer. Salary (a progressive one) commences at £100 a year, with apartments, board and attendance.

LINCOLN ODDFELLOWS' MEDICAL INSTITUTE.—A qualified Assistant. Salary £120 a year (out-door). (Apply to the Secretary, 12, North Parade, Lincoln.)

LIVERPOOL NORTHERN HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance in the house.

LOUGHBOROUGH FRIENDLY SOCIETIES' MEDICAL AID ASSOCIATION.—Junior Medical Officer. Commencing salary £160 per annum.

MCGILL UNIVERSITY, Montreal, Canada.—Professorship of Pathology for the Faculties of Medicine and Comparative Medicine for one year. Salary for provisional appointment for one year £400 sterling. (Apply to the Dean, Montreal, Canada.)

METROPOLITAN ASYLUMS BOARD, Norfolk-street, Strand, W.C.—Clinical Assistant at the Darenth Schools and Pavilions for Imbeciles, near Dartford, Kent. Board, lodging and washing provided.

NOTTINGHAM BOROUGH ASYLUM.—Resident Clinical Assistant for six months. Board and residence provided.

QUEEN'S HOSPITAL, Birmingham.—Physician for Out-patients and Pathologist to the Institution for three years. Annual honorarium £75.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge-road, S.E.—Obstetric Physician.

ROYAL PORTSMOUTH, PORTSEA, AND GOSPORT HOSPITAL, Portsea.—Assistant House Surgeon for six months. Board, residence and washing, and an honorarium of £15 15s. at expiration of term of office.

ROYAL SEA-BATHING INFIRMARY FOR SCROFULA, Margate.—Resident Surgeon. Salary £100 per annum, with board and residence. (Apply to the Secretary, Offices, 30, Charing-cross, S.W.)

SHEFFIELD PUBLIC HOSPITAL AND DISPENSARY.—Senior Assistant House Surgeon. Salary £65 per annum, with board, lodging and washing.

ST. LUKE'S HOSPITAL.—Resident Clinical Assistant for six months, with board and residence.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, W.—Resident Medical Officer. Salary £105 per annum, with furnished apartments, attendance, coal and gas.

VICTORIA INFIRMARY OF GLASGOW.—Superintendent and Resident Medical Officer. Commencing salary £150 per annum, with apartments and board.

WEST KENT GENERAL HOSPITAL, Maidstone.—House Surgeon. Salary £150 per annum, with furnished apartments, coals, gas and attendance in the hospital.

WONFORD HOUSE HOSPITAL FOR THE INSANE, near Exeter.—Assistant Medical Officer. Salary £150 per annum, with board, furnished apartments, and washing.

WORCESTER AMALGAMATED FRIENDLY SOCIETIES' MEDICAL ASSOCIATION, Worcester.—Assistant Medical Officer. Salary (without residence) £140 per annum, with part of Midwifery fees; also £20 per year for cab hire.

Births, Marriages, and Deaths.

BIRTHS.

DUNLOP.—On June 30th, the wife of Shuldham Dunlop, M.D., Holywood, county Down, of a son.

FRAZER.—On July 9th, at Bellgrove-terrace, Newcastle-on-Tyne, the wife of Surgeon-Major P. T. Frazer, Army Medical Staff (Retired), of a daughter.

HAIRSINE.—On July 4th, at Roose House, Upper Tooting, S.W., the wife of Hudson Hairsine, L.R.C.P., of a son.

LANGTON.—On July 12th, at Marlborough-place, Brighton, the wife of Herbert Langton, M.R.C.S., of a daughter.

MARTIN.—On July 12th, at Arnheim, Blackburn, the wife of John M. H. Martin, M.D (Vict.), F.R.C.S. Eng., J.P., of a son.

MORRIS.—On July 12th, at Windhill, Bishop's Stortford, the wife of John Edward Morris, M.D., of a daughter.

SELBY.—On July 11th, at Teynham, Kent, the wife of Prideaux George Selby, L.R.C.P. Lond., M.R.C.S., of a daughter.

WALE.—On July 6th, at High-street, Croydon, the wife of George Wale, L.R.C.P. Lond., D.P.H. Camb., M.R.C.S., of a son.

MARRIAGES.

COLE-BAKER—LYSTER.—On July 13th, at St. Peter's Church, Dublin, G. Cole-Baker, M.B., Assistant Master, Coombe Hospital, 28, Lower Baggot-street, to Florence, widow of the late Philip T. Lyster, R.M.

HARDEN—LEVY.—On July 6th, at St. Mark's, Hamilton-terrace, N.W., Edward Henry Thornborough Harden, M.R.C.S., L.R.C.P. Lond., eldest son of the late Henry Harden, M.R.C.S., of St. Mawes, Cornwall, to Emily Agnes, youngest daughter of the late Albert Levy, of Hall-road, N.W.

LUKE—RUSSELL.—On July 12th, at The Lodge, Elie, N.B., by the Rev. P. Hay Hunter, Minister of Yester, assisted by the Rev. R. H. Dunlop, Minister of Elie, and the Rev. Duncan MacGregor, Minister of the Free Church, Elie, James Luke, M.B., C.M., to Elizabeth, daughter of the late George Russell, J.P., of The Lodge, Elie.

PINHORN—BRYANT.—On July 7th, at Christchurch, Marylebone, Richard Pinhorn, M.R.C.S., L.R.C.P. Lond., L.S.A., of Cambridge-terrace, Dover, to Susan Catherine Victoire, widow of the late Lieut.-Colonel G. F. Bryant, Indian Army (2nd Belooch Regt.).

SCOTT—LAMB.—On July 6th, at St. Stephen's Church, C.-on-M., Manchester, Benjamin Scott, M.B., C.M., of Ardwick-green, Manchester, to Alice Mary (Mollie), second daughter of the late Alderman Joseph Lamb, J.P.

SCOTT—MOLONY.—On July 5th, at Christ Church, Crookham, Hants, Horatio Scott, M.D., Surgeon-Major Retired, of Basingbourne, Fleet, Hants, son of the late Rev. J. L. M. Scott, Rector of Portaferry, to Eleanor Florence, second daughter of the late Frederick Beresford Molony, Madras Civil Service.

WIGAN—HOPKINS.—On July 6th, at Easton Church, near Winchester, Charles Arthur Wigan, M.D., of Portishead, Somerset, to Emily, daughter of Major Powell Hopkins, late 15th Regiment, and granddaughter of the late General Sir Philip Baimbrigge, K.C.B.

DEATHS.

BALKWILL.—On July 11th, very suddenly, at 14, Old Cavendish-street, Cavendish-square, London, William Edward Balkwill, aged 43.

BURCHELL.—On July 5th, at Delamers, Bradwell-on-Sea, Southminster, Essex, Peter Lodwick Burchell, M.B. Lond., F.R.C.S. Eng., aged 74 years and 10 months.

DOUTY.—On July 12th, at Moulsford, J. Harrington Douty, M.R.C.S., L.S.A., Superintendent of the Berks County Asylum, late of Netherhampton, Salisbury, aged 34.

MURPHY.—On June 24th, at Cork, Surgeon-Major F. H. S. Murphy, Army Medical Staff, aged 37.

RUTHERFORD.—On July 2nd, at Pulborough, Sussex, Samuel Rutherford, M.D., M.R.C.S., L.S.A., aged 54.

SYLVESTER.—On July 10th, at Dry Hill Park, Tunbridge, Harold Augustus Sylvester, M.R.C.S., fifth son of S. A. Sylvester, in his 26th year.

WALLACE.—On July 5th, at Grange Mount, Claughton, Cheshire, Quintin Macadam Wallace, M.D., aged 30.

WALTERS.—On July 8th, at Wharfdale House, Cheltenham, Charles Astley Walters, M.R.C.S., aged 67.

WEISS.—On July 4th, Hubert Foveaux Weiss, F.R.C.S. Eng., of Granville-gardens, Ramsgate, and Piccadilly, W., aged 37.

N.B.—A fee of 2s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 14th, 1892.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
July 8	29·97	N.W.	61	54	125	73	53	...	Bright
,, 9	30·11	W.	62	56	125	73	54	...	Cloudy
,, 10	30·01	W.	61	55	110	69	54	...	Overcast
,, 11	30·03	S.E.	61	57	112	68	57	...	Overcast
,, 12	29·64	S.E.	61	57	107	67	56	...	Cloudy
,, 13	29·56	S.E.	60	58	107	63	57	·16	Cloudy
,, 14	29·79	N.E.	56	55	70	59	55	·14	Overcast

Notes, Short Comments & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

THE DISCOVERY OF THE CIRCULATION OF THE BLOOD.

No discovery has been so gradual as that of the circulation of the blood, and an adequate history of the steps by which the ground was prepared for Harvey's immortal induction has yet to be written. We have had monographs from time to time setting forth the claims of pioneers like the Spaniard Serveto and the Italian Cesalpino to having, in part if not in whole, anticipated the English physiologist, while enthusiastic "vindicators" like Dr. Archibald Pitcairne have contended that for those who can "read between the lines" the discovery was as good as made by Hippocrates himself. But, we repeat, a competent historian of the most momentous finding in physiology has yet to appear. Early in the third century after Christ (a scholarly correspondent reminds us), probably in the reign of the Emperor Caracalla, were published the "Recognitions of Clement," in the eighth book of which there is certainly a remarkable adumbration of Harvey's discovery: "What shall I say of the substance of the blood which, proceeding as a river from a fountain and first borne along in one channel and then spreading through innumerable veins, irrigates the whole territory of the human body with vital streams, being supplied by the agency of the liver, which has its seat in the right side for effecting the digestion of food and turning it into blood?" The passage is of deep interest, and in that history which we have already desiderated must find its place as an important link in the inductive chain which it was reserved for Harvey to complete and to connect with universal truth.

Anxious.—It is only safe to employ a qualified assistant under the immediate supervision of the principal and living in the same house.

Mr. J. W. Cook.—We do not recommend practitioners.

PSEUDO-CYESIS.

To the Editors of THE LANCET.

SIRS,—You may think the following case of spurious pregnancy of sufficient interest for publication.

A lady engaged me to attend her in her confinement. She stated that she was eight months pregnant. Inquiring her age, I discovered she was fifty-two years old, which surprised me, and I obtained the following history. Until to eight months before she had been perfectly regular and showed no signs of change of life. She was a widow with two children, the youngest being of age. She had incurred the risk of impregnation eight months previously with a man who promised her marriage, which promise he has not fulfilled. Morning sickness almost immediately set in and lasted for seven weeks. The breasts became painful and she "quickened" at the beginning of the sixth month, since when, she said, "the kicks have often made me feel faint." She increased greatly in size. I did not then examine her. Five weeks later I was sent for, as she was said to be in labour. The pains were very strong and frequent on my arrival. Palpation failed to reveal the presence of a child, though the abdomen was very large; breasts turgid and secreting milk freely. While examining the abdomen I saw a distinct impulse, and on placing my hand over the point felt the rectus muscle violently contract. It was very like the kick of a child. Vaginal mucous membrane normal in colour; cervix ulcerated and congested. The sound passed into the womb registered 3½ in. The os slightly patulous. Temperature of patient 100°; pulse 100 and irregular. I assured the patient and her friends that she was not pregnant, but I think they would like to have assured me I was not sane. However, I insisted upon it, and very shortly the pain ceased. Next morning the breasts had ceased to secrete milk, the abdomen was decidedly less in size and there had been no pain. I ordered the patient up and to go out (she had not been out for nine months, fearing recognition of her state), which she did, and a few days after had a regular menstrual flow and is now in her normal healthy condition. The patient after connexion had been much worried, fearing impregnation, and had been unable to sleep, and the symptoms very soon showed themselves and followed the regular order. She had disclosed her condition to her family, causing much grief, and in all good faith had prepared everything for her confinement and lying-in.

I am, Sirs, yours faithfully,

July, 1892. G. HAY REYNOLDS, M.B.

MEDICAL AID ASSOCIATIONS.

To the Editors of THE LANCET.

SIRS,—In reply to the question asked by "A. H. T. D.," may I point out that there is nothing to prevent any association from making a contract with a member of the legal profession in order to obtain advice at a low rate, and that if the Incorporated Law Society or the General Medical Council try to interfere in these matters they will have to be dealt with by a still more powerful body, the House of Commons, the vast majority of whose members are dependent for their seats on the votes of men who are either members of friendly societies or who sympathise with those who are. Moreover, were the whole population of these islands to secure advice and medicine by paying 1d. per week the income of a medical man would be about £300 a year, and if we consider that the larger incomes made in our profession are drawn from a comparatively small wealthy class who will not join friendly societies, we can see that no increase of such societies can greatly reduce the incomes of medical men. I have been in the employment of a practitioner who paid me barely 5 per cent. of the income he received from my work, whereas now, in the employment of a friendly society, I receive about 50 per cent. of the payments of members and all the midwifery fees. What is it to me who gets the surplus, and why should I fancy I have any claim on it? There are many other reasons which make me prefer my present position to that of an assistant; there is no possibility of differing on a professional matter from my employer—a difference which, whether he proves to be right or wrong, results unpleasantly for an assistant; I hold a permanency during good behaviour, and cannot be dismissed to make way for a partner or for the principal's son (newly qualified); my employers increase my salary according to promise and do not allege that "business is bad," for the plain reason that they have no interest in doing otherwise; I receive far more respect from my patients than I should receive in a surgery, where the patient, having his fee ready and knowing that other surgeries are open to him, regards the doctor as he does the publican. I very seldom see my employers, and am not interfered with by them in the discharge of my duties. All these reasons lead me to think that assistants are justified in looking on even a junior position in connexion with a medical association as a prize, and that they do so is shown by the keen competition for such appointments. As to the fact that the parish nurses attend our cases, I may point out that instances are not rare in which even patients who pay large fees to their medical attendant seek the services of these women. In conclusion I may say that I have heard of no instance in which a doctor was refused an appointment because of his having been connected with a Medical Aid Society.

I am, Sirs, yours faithfully,

July, 1892. VERAX.

INCREASE OF MEDICAL OFFICERS' SALARY.

A GENERAL MEETING of the Glamorgan County Council Asylum Committee was held recently to consider applications on behalf of the medical staff for increase of salary on account of increased duties. It was recommended that the medical superintendent, Dr. Pringle, should have his salary increased from £800 to £1000; Dr. Stewart, second in charge, to have an increase from £290 to £250; Dr. Findlay to be raised from £150 to £200; and another medical officer at Angeltown to be increased from £120 to £150.

Suffolk.—The question is hardly one for us to decide, but in the absence of other evidence it would appear as if the clause quoted stated the precedence of the parties.

THE "STABILIMENTO BALNEARE" AT NOCERA.

PROFESSOR MURRI of Bologna, than whom there are few better qualified to speak authoritatively on therapeutics, has put on record his high opinion of the virtues of the waters of Nocera, particularly in gouty affections in which stomach, liver, kidneys and heart are involved. The source that yields the so-called Acqua Bianca has proved of signal efficacy in the uric acid diathesis, and the air of the locality is such as to cooperate effectively in promoting a return to the healthy state. Like other centres of mineral-water supply, Nocera after centuries of popularity fell into disrepute, sharing, indeed, the general decadence that befell Italy after the Renaissance. It was still resorted to in 1714, the year in which a medal was struck to commemorate the building of the Palazzo Nuovo by Pope Clement XI., who highly appreciated its healing resources; but shortly after that date it had almost ceased to attract visitors, in spite of its noble position, its excellent air and the undoubted virtues of its Acqua Bianca. Quite recently, however, it has, like many other Italian institutions, undergone a resurrection, and few "stabilimenti balneari" in the peninsula have done more to merit a return to popular favour. In summer its temperature ranges from 16° to 22° C.; it is sheltered from the hot winds of the south; its air is dry, pure and restorative, not too stimulating for the nervous system and very grateful to delicate chests. It has, moreover, warm alkaline baths for disorders of the skin and for rheumatic and gouty subjects, and its hydrotherapeutic staff consists of able physicians provided with every resource for the inhalation of compressed or rarified air, for the practice of Faradisation and other electrical treatment, culminating in "bagni elettrici" prescribed and administered by well-qualified consultants and attendants. Professor Murri's attestation to the value of the "stabilimento" is confirmed by the written opinions of Professor Castiglioni and Dr. Barduzzi, two eminently sound authorities, who have had personal experience of its efficacy. Add to this the lovely landscape of Umbria, recalling so many *chefs-d'œuvre* of Perugino and his pupil Raphael, and Nocera would seem to be a health resort inferior to none in Italy and to few in Austro-Hungary, Switzerland, Germany or France. Hotel accommodation, usually defective in Italy, has of late years been much improved throughout the peninsula, and that of Nocera, previously sharing in the general roughness of Italian houses, now affords a favourable specimen of the more comfortable appointments demanded by modern civilisation. The season is now at its height, but the early summer and the late autumn have much to recommend them, especially to the visitor from northern latitudes.

Lex.—Much depends on the distance between the towns A and B and the possibility of C being able to take personal interest in and exercise supervision over affairs in town A. The mode of procedure is not ordinary, but we are not prepared to say it is wrong.

THE OPIUM HABIT.

To the Editors of THE LANCET.

SIRS,—In reply to the letter of "Opium" I beg to inform him that there is no limit to the quantity of opium or tincture of opium that a druggist may sell to a customer. A few months since I discovered that a druggist had for many years supplied one of my patients with thirty or forty ounces at a time of tincture of opium. This patient had contracted the opium habit, but although I suspected that small quantities were taken I was astonished to find that it had been possible to procure it in the quantity I have mentioned. I have been informed on good authority that the Sale of Poisons Act does not in any way prohibit the sale of laudanum in any quantity and without any inquiry as to the name of the purchaser or the purpose for which it is required. This reveals a most lamentable state of things, and shows the necessity for an amendment of the law. The Association for Preventing the Sale of Opium to the Chinese should investigate the subject of the facilities for obtaining opium without let or hindrance in England.

I am, Sirs, yours obediently,

July 11th, 1892. SANITAS.

Medical Superintendent.—Misrepresentation and exaggeration are inexcusable in a lady allowed to visit hospital patients. But any honest criticism directed in the first instance to the authorities of the hospital should be welcomed.

Correspondent.—He should be willing to do so if required.

LIFE INSURANCE.

To the Editors of THE LANCET.

SIRS,—The vital importance of life insurance for the medical profession must be my excuse for asking you to allow me to call your readers' attention to the Pioneer Life Office of Liverpool, which seems to be very little known in London. The advantages offered are so great, the premiums so small and the system so easily grasped that I would advise all intending insurers to thoroughly examine it.

I am, Sirs, yours faithfully,

June 29th, 1892. M.D.

CHOLERA REGULATIONS.

THE following General Order has been issued by the Local Government Board to port sanitary authorities, urban and rural sanitary authorities, medical officers of health, officers of customs, masters of ships &c.:—

"Whereas cases of an infectious disease alleged to be cholera now exist in certain parts of France and it is expedient that regulations should be made with reference to ships having on board bales of rags from that country, now therefore we, the Local Government Board, do by this our Order, and in exercise of the power conferred on us by Section 130 of the Public Health Act, 1875, by the Public Health Act, 1889, by Section 113 of the Public Health (London) Act, 1891, and every other power enabling us in this behalf, make the following regulations, and declare that they shall be enforced and executed by the authority or authorities specified: 1. From and after July 12th, 1892, and until we shall by order otherwise direct, no rags from France shall be delivered overside, except for the purpose of export, nor landed in any port or place in England or Wales.—2. If any rags shall be delivered overside or landed in contravention of this order, they shall, unless forthwith exported, be destroyed by the person having control over the same, with such precautions as may be directed by the medical officer of health of the sanitary authority within whose jurisdiction or district the same may be found.—3. All masters of ships consignees and other persons having control over any rags prohibited under this order from being delivered overside, except for the purpose of export, or landed, are required to obey these regulations.—4. All officers of customs are empowered to prevent the delivery overside or landing of rags in contravention of this order.—5. It shall be the duty of the sanitary authority to take proceedings against masters of ships, consignees or other persons having control over any rags, who shall wilfully neglect or refuse to obey or carry out, or shall obstruct the execution of any of these regulations." [The Public Health Act, 1875, provides by Section 130 that any person wilfully neglecting, or refusing to obey or carry out, or obstructing the execution of any regulation made under that Section shall be liable to a penalty not exceeding £50.]

CLAIM TO EMERGENCY CASES.

One Anxious to Know.—We think Dr. A. has no claim to the case in question. Claims arise either from previous attendance on patients, or from a sudden call in an emergency. But it cannot be maintained that a message in an emergent case to the practitioner whose door comes first in the messenger's way gives any claim to the case.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Messrs. Allen and Hanburys, London; Mr. R. Bingham Adams, Southsea; Mr. E. Brown, Birmingham; Mr. J. F. Bullar, Southampton; Dr. J. St. Clair Boyd, Belfast; Dr. R. W. Bateman, Newmarket; Messrs. A. and C. Black, Edinburgh; Mr. Baron, Manchester; Messrs. Burgoyne and Co., London; Dr. Bobardt, Newbury; Dr. H. J. Buck, Clapton Common; Mr. J. B. Browne, London; Messrs. Baillière, Tindall, and Cox, London; Mr. Philip Boobbyer, Nottingham; Messrs. Black, London; Mr. Birchall, Liverpool; Dr. Canney, London; Surgeon-Lieutenant-Colonel A. Crombie, Calcutta; Messrs. Chapman and Farrington, London; Mr. Cooke, London; Dr. Coghill, Birmingham; Dr. W. Dale, London; Mr. Davids, Banbury; Mr. J. H. Dewhurst, Tunbridge Wells; Messrs. W. and W. Davies, Brighton; Mr. Havelock Ellis, London; Mr. Fardon, Liverpool; Mr. J. Feare, Liverpool; Mr. Gravatt, London; Messrs. Chas. Griffin and Co., London; Mr. T. Campbell Grey, Swansea; Mr. Heywood, Manchester; Mr. Harding, Loughborough; Messrs. Humphreys, London; Mr. J. W. Lawrence-Hamilton, Brighton; Mr. Hornibrook, London; Mr. M. J. Houghton, Wolverhampton; Dr. Hedley, Brighton; Mr. Johnstone Herbert, Whitby; Mr. C. A. James, London; Dr. Kanthack, Cambridge; Mr. Knight, Dublin; Dr. T. Laffan, Dublin; Mr. Maconochie, London; Mr. McGachen, Tilbury; Mr. Martin, Blackburn; Messrs. McDonald and Sons, London; Mr. Macaulay, Halifax; Messrs. Mitchell and Co., London; Mr. F. M. Mangan, London; Mr. Lewis A. Marin, Bayswater; Dr. James W. Martin, Leith; Messrs. Mason and Co., Chelsea; Mr. A. Nixon; Dr. C. Oakes; Messrs. Oppenheimer Bros. and Co., London; Dr. Oliver, Newcastle-on-Tyne; Dr. Phillips, Birmingham; Mr. Chas. E. Piers, Capetown; Mr. Page, London; Mr. W. T. Palmer, Barking; Mr. Rumble, Camberley; Messrs. Rowntree and Co.; Mr. F. J. Rebman; Dr. Snow; Mr. J. Barker Smith; Mr. C Sers, Peckham; Mr. Smith, London; Mr. Spencer, London; M. Ch. Somasco, Creil; Major Singleton, London; Mr. Smith, Westgate-on-Sea; Mr. Storer, Nottingham; Mr. Stallard, Worcester; Dr. Chas. Steele, Bristol; Messrs. Saint and Co., Carlisle; Mr. Thomas, London; Mr. Vickers, London; Dr. Wethered, London; Dr. W. Essex Wynter, London; Messrs. Whitehead, London; Messrs. Wright and Co., Bristol; Mr. Woodcock, Bradford; Messrs Wright, Dain, and Co., Birmingham; Mr. Worfell, London; Messrs. Winser, Sykes, and Co., London; Mr. Williams, Tranmere; Messrs. Whitworth and

Stuart, Manchester; Messrs. Wilson and Blessley, London; Sheffield Public Hospital; *Nursing Record*, London; Agent-General for New Zealand; Secretary, Victoria Infirmary, Glasgow; Secretary, Bury Dispensary Hospital; Hope, London; Lady Superintendent, North London Nursing Association; General Apothecaries' Co., London; The Bursar, Epsom College; M.B., London; Surgeon, London; *Patent Medicine Journal*, &c., London; Mark, London.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Lucca Scilla, Italy; Mr. Ward, Cork; Mr. Keens, Luton; Messrs. Keith and Co., Edinburgh; Rev. A. Tooth, Croydon; Mr. Moseley, Upper Caterham; Mrs. Burchell, Bradburn-on-the-Sea; Mr. Marks, New York; Dr. Dixey, Sidcup; Mr. Thin, Edinburgh; Messrs. Battle and Co., Paris; Surgeon-Captain Hughes, Malta; Dr. Pendleton, West Brighton; Mr. Cox, Southport; Mr. Breach, Newbury; Messrs. Lee and Martin, Birmingham; Mr. Cobb, Dolgelly; Mr. Jamison, Ebbw Vale; Mr. Fry, Maidstone; Mr. Brown, Tredegar; Messrs. Thynne and Co., Westminster; Dr. N. Kerr, London; Mr. Mainwaring, West Kensington; Mr. Birkenhead, Coalville; Mr. Groves, Dorset County Asylum; Dr. Ingle, Jersey; Mr. Fox, Chesterfield; Mr. Cochrane, Greenock; Mr. Norman, Buckfastleigh; Mr. Johnstone, Edinburgh; Mr. Cane, Waterford; Mr. Davidson, Ballymena; Mr. Hardy, Maidstone; Mr. Griggs, St. Albans; Mr. Griffiths, Lampeter; Mr. Rhodes, Huddersfield; Mr. McFarland, Smallburgh; Messrs. Benger, Manchester; Mr. Kegworth, Lincoln; Miss Elliott, Manchester; Mr. Tyte, Minchinhampton; Dr. Williams, St. Servan; Mr. Fitzgerald, Queenstown; Mr. Spencer, Devonport; Mr. Findlay, co. Durham; Mr. Bayley, Basingstoke; Mr. Wheatley, Blackburn; Mrs. Rutherford, Sussex; Mr. Wheeler, Manchester; Mr. Deane, Lincoln; Mr. White, Wolverhampton; Mr. Miller, Aysgarth; Mr. Ealas, Torquay; Mr. McDonald, Glasgow; Mr. Fiske, Maidstone; Mr. Kerr, York; Mr. Armstrong, London; Dr. Mason, Pontypool; Mr. Walker, Canada; Mr. Duckett, Burnley; Mr. Totten, Bolton; Mr. Goodman, Taunton; Mr. Mackay, Pontnewydd; Dr. Wetherall, Australia; Mr. Johnstone, Canada; Dr. Harvey, Australia; Galen, London; British Medical Protection Society; Anvers, London; H. J., London; Medicus, London; Class Rooms, Edinburgh; Alpha, London; Alpha, Birmingham; College of State Medicine, Bloomsbury; S., London; Secretary, Joint County Asylum, Abergavenny; Kensington, London; Hackney Furnishing Co., London; Transfer, London; K. H. F., London; L. D., Kidderminster; Smith, Eastbourne; Edinburgh, London; Clayton, Edinburgh; Gerald, Cheshire; J. M. M., London; A. B, London; J. W., London; Surgeon, Wantage; Alpha, Farnworth; Edina, Edinburgh; B. C. H., London; 6, Jasper-street, Hanley; B., London; M.R.C.S., Finsbury-circus; Beta, London; B., Borough; Tabes, London; Belgrave, London; Medicus, Bristol; Marsden, London; F.R.C.S. Eng., London; M. C., London; York, London; Nucleus, London; Gravitas, Middlesbrough; Sherlock, London.

NEWSPAPERS.—*Leicester Daily Post, Sydney Morning Herald, Brighton Guardian, Newcastle Daily Chronicle, Birmingham Post, Liverpool Courier, Western Daily Press, Toronto Mail, Montreal Daily Star, Le Temps (Paris), Health, Windsor and Eton Express, Local Government Chronicle, Law Journal, Hertfordshire Mercury, Guy's Hospital Gazette, Insurance Record, Surrey Advertiser, Windsor and Eton Gazette, Mining Journal, Weekly Free Press and Aberdeen Herald, Reading Mercury, City Press, Architect, Engineer, Nottingham Daily Express, Local Government Journal, Citizen, Builder, West Middlesex Advertiser, Bradford Observer, Midland Evening News, Kimberley Independent, Scottish Leader, Doctor's Weekly (New York), The Times Democrat (New Orleans), Court Journal, Sunday Times, Scotsman, United Service Gazette, Nottinghamshire Guardian, Woodford Times, Bristol Times and Mirror, Western Morning News, East Grinstead Times, Irish Times, Express and Star (Wolverhampton), Northern Whig, Lynn News, Yorkshire Herald, Times of India, Pioneer Mail, The Statesman (Calcutta)*, &c., have been received.

Medical Diary for the ensuing Week.

Monday, July 18.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M. and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

Tuesday, July 19.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.
GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.

Wednesday, July 20.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, July 21.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

Friday, July 22.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, July 23.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

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Front page	0 1 0 per Line
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